AMERICAN

Journal of Mining,

Engineering, Geology, Mineralogy, Metallurgy, Chemistry, etc.

VOLUME V.—Number 23. New Series.

NEW YORK, JUNE 6, 1868.

$4 A Year in Advance. Single Copies Ten Cents.

SEWING MACHINES AT THE PARIS EXPOSITION.

The accompanying illustration, fine as it is, hardly does justice to the artistic display made by the WHEELER & WILSON Sewing Machine Company, at the Paris exposition. It was quite in keeping with the reputation of their Machines, for which was awarded the GOLD MEDAL, for this branch of manufacture, over eighty-two competitors. Their exposition consisted of a show-case, of most beautiful specimens of sewing, fairy-like in form, color and fineness, elaborately wrought with countless thousands of pearly stitches that no hand could execute; dainty dresses for infants and children; elegant robes for youth, beauty, and mature grace; heavy suits for men and boys; an elaboration of hemming, felling, tucking, frilling, binding, cording, braiding, embroidering, quilting, gathering, button-holing, and draped above, two splendid silk flags, French and American, wrought with this machine. No gold medal had been intended for this branch of manufacture, and, indeed, the foreign display of machines merited no such recognition; but the Jury noticed the ingenuity and simplicity of the mechanism, elegant in form, easy, rapid, and quiet in operation and management, wide and perfect in its range of work, from gossamer to Kersey, with its appliances for various processes of sewing, especially the button-hole attachment, the latest and crowning invention, making one hundred and fifty button-holes an hour. All of these called forth expressions of approbation, especially from Baron Seguier, President of the Jury, a magistrate of mature years, and one of the ancient noblesse of France, but also an amateur mechanic. He has a room fitted up as a shop in which he devotes much time to mechanical studies. The Rotating Hook, simple in form, efficient and lightening-like in operation, attracted his attention as being an entirely novel device in mechanism.

The button-hole machine and attachment were, something that attracted especial attention. The various ordinary processes of sewing by machinery had become familiar operations, but still, button-hole stitching remained, as of old, to plague the inventor, as well as the seamstress. The Brothers House had finally cut or rather tied the Gordian knot and perfected the Sewing Machine, by adapting it to the sole remaining process of needle-work not executed by machinery. One hundred and fifty button-holes per hour, neatly made and barred at each end are not a trifling achievement.

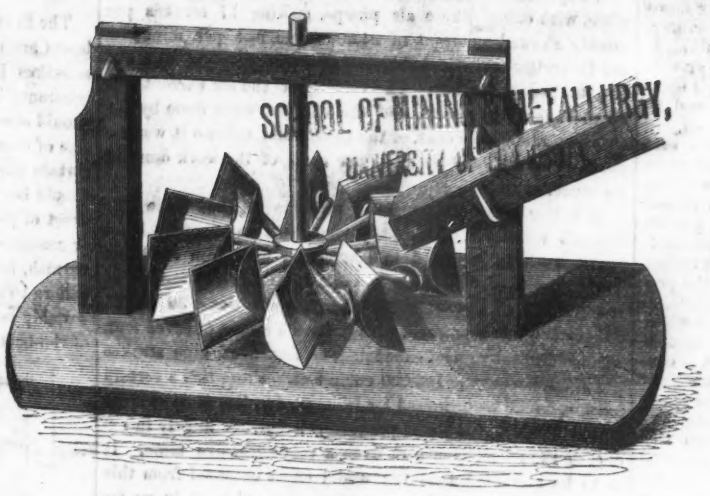
The good construction of the machines did not escape attention. The system of manufacture is by automatic machinery; any part of each machine being interchangeable with a similar piece in every machine. The Jury were informed that about 50,000 machines are sold every year, and were surprised to see working side by side No. 1 and No. 300,000 of this Company's manufacture, the former not differing in principle from the latter, and doing as good work after fourteen years constant use.

They remarked, also, the beauty and excellence of the Cabinet work. The rich American woods, walnut, oak, ash, maple, tastefully carved and richly polished, presented a very attractive appearance. The numerous previous awards of high grade, were not without their influence. They contrasted the machines of 1867 with those which had triumphed in Paris in 1855 and 1861, as well as at the World's Fair in London, 1862, and noted the remarkable progress. The whole display so much surpassed their expectations that they unanimously recommended WHEELER & WILSON for a Gold Medal. Their action was confirmed by the Imperial Commission, and this Company enjoys the merited distinction for this branch of manufacture, over eighty-two competitors, and of conserving to our country the honor of leading the world in the perfection of Sewing mechanism.

VIEW AT THE PARIS EXPOSITION.

PATENT SQUARE-DISH WATER WHEEL.

The annexed engraving represents a water wheel of a novel construction, suitable for mills, factories and workshops; also for farming, tanning and mining purposes. It will be seen that the buckets are dished, or made concave, and that the water is conducted to them by means of a wooden spout, or conduit, that is placed at an angle of about 30°. The buckets are placed angularly, and made of iron. What is claimed for this direct acting wheel is, that by multiplying the spouts, or shutes, any amount of power can be obtained from the same wheel; its capacity is very large, and will give all the obtainable power existing in a stream, or of as much water as may be applied to it, be the same more or less. It requires no pentstock, or other expensive wood work, neither is there any need of a rack; stones, leaves or rubbish will not affect its working. Among the many advantages of such a wheel are these: it can be erected by any ordinary millwright; is easily repaired when broken, and transported readily on a mule's back; it can be taken apart, and made portable, boxed and shipped in separate pieces, and thus easily carried to remote or difficult regions; and being simple in construction, can be easily put together again. On the contrary, wheels, when shipped whole, are carted and handled with difficulty, and at great expense, as it is often difficult to obtain heavy teams, especially in mountainous or mining districts, to which this wheel is especially adapted, and this certainly makes a large saving on railroad and steamboat transportation, and less liability of the wheels being damaged. The moderate cost being about one-fourth that of other iron wheels, the peculiar construction, simplicity and durability of this wheel make it an economical, powerful, and therefore a desirable machine for all those who need water driving power. All further information may be obtained from E. H. PECKHAM, Chester, Conn.



IMPROVED WATER WHEEL.

New Gold-field in Southeast Africa.

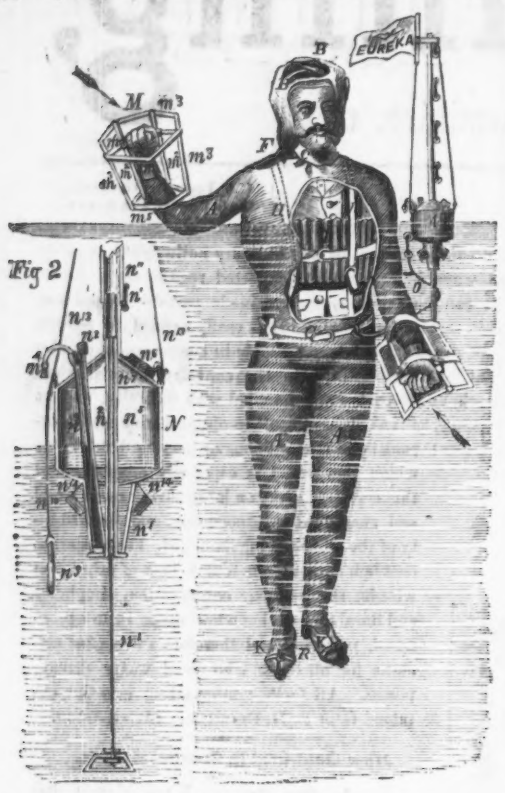
The German explorer, KARL MAUCH, has discovered an extensive gold-field under latitude 17° South, about 180 English miles distant from the Portuguese colony of *Tete*, on the Zambesi river. When MAUCH discovered this region (July 28, 1867), he also observed various circumstances which prove that the natives had formerly worked this region. He traced one quartz-vein about seven English miles (1½ German miles). Near this vein he found a place strewn with slags, ashes, coals and fragments of earthen vessels, indicating that the natives had here smelted their ores. He also found several holes in the quartz-vein, but the deepest was only 10 feet. Mr. MAUCH found highly lustrous, argentiferous galena, as well as gold. The next day (July 29) he came to a still more extensive gold-field, showing, upon a surface of 10 English miles in length and 7 miles in breadth, workings of veins to a depth of 6 feet; but these diggings had been long abandoned, as shown from the fact that trees, seven inches in diameter, had since then grown upon the spot. The principal rock is gneiss. Granite occurs in boulders, and forms hills 150 feet high; diorite is also exposed. Trees and bushes were scarce, but the grass was so high that it seriously impeded a more detailed exploration of this gold-field by the traveller.—*Petermann's Geographische Mittheilungen.*

PATENT LIFE SAVING APPARATUS.

The accompanying engraving illustrates an apparatus that has been invented more especially for the saving of life and property, but which can be used for a variety of purposes, such as crossing rivers, ponds, and deep streams, for explorations and maritime geological surveys. The apparatus consists of a cork jacket, which being adjusted and the rubber suit slipped over the wearer's dress, covering the whole body, with the exception of the face and the hands, protects the wearer and such valuables as he may have on his person, and keeps him comfortable and free from cramps. The shoe weights keep him in an erect position in the water, and the hand device enables him to propel himself to shore or any other place of safety. By referring to the illustration it will be seen that

A is a rubber suit, made in one piece, the lower parts or feet being made thicker than the other parts, and in the same manner that rubber shoes are now made. The suit *A* is made large enough to be put on over the ordinary clothing of the wearer, his shoes only being removed. The only openings in the suit *A* are at the upper end or head, and at the wrists, for the exposure of the face and hands of the wearer. The open-

ings at the wrists are provided with cuffs or bands, a', made in a piece with the suit, to confine the edges of the openings closely around the wrists of the wearer, to prevent the entrance of water. To the under side of the edge of that part of the upper or top opening that comes upon the wearer's head, is secured an elastic band, B, which is made tubular in form, and which passes under the chin of the wearer, beneath the chin-flap, C. To the inner edge of the under side of the upper opening is attached an open elastic band, D, formed by



connecting two elastic tubes longitudinally with an elastic membrane, so as to leave a space or channel between the two tubular edges of said band. The band D is buckled over the head of the wearer, and is prevented from slipping forward by an auxiliary band E, attached to it, and which passes around the back of the head of the wearer.

The elastic tubular band B, is then sprung into place beneath the chin of the wearer, passing also beneath the chin-flap, C, in such a way as to lie in the space or channel between the tubular edges of the elastic band, D. The slack of the upper opening is gathered into a roll, and placed in the hollow between the jaws and neck of the wearer, where it is confined and secured by a strap, F, secured in proper position to the other side of the suit, which is buckled around the neck of the wearer.

The flap C, projects forward, beneath the chin of the wearer, and is intended to protect his mouth and nose from the splash of the water. The upper or top opening of the suit is made so large that the wearer can conveniently insert his body through it. The suit is secured to the body of the wearer by the strap G, secured to the rear part of the suit, and buckled around his body.

The suit is still further supported by straps or suspenders H, secured to the lower part of the body of said suit, and passing over the shoulders of the wearer, as shown in cut. I is a cork jacket, made of suitable material; it may be smooth or flat upon the inside and corrugated upon the outside. The jacket I, is worn beneath the rubber suit A, is buckled around the waist of the wearer, and is prevented from slipping down by shoulder straps J, passing over the shoulders of the wearer. When not in use it can be folded into a very small bulk. K are metal shoes or weights, fitting upon the feet, the greater part of the weight (about five pounds) being collected upon the instep. The shoes K, are made in two parts, hinged to each other at the heel for convenience in putting them on, and secured to each other by a strap k', buckled around the said shoes, and around the feet of the wearer. The forward parts of the shoes or weights, are kept from slipping or working upon each other by projections formed upon the edge of one part and entering holes or cavities in the other part, padded upon their inner sides and edges, to prevent them from chafing the wearer, and galvanized or wholly covered with rubber to prevent the corrosive action of the water. M is the propelling or swimming device, in which m^2 is a bar or handle, to be grasped in the hand of the wearer, and to the ends of which are attached bars m_2. m^3 is a wire framework, hinged or pivoted to the bars m^2. The entire framework, m^2, m^3, is covered with rubber, as shown in the drawings. When the hand with the device M attached to it, is moved through the water in one direction, the wings fold down, so as to encounter less resistance from the water; but when moved through the water in the other direction, the wings expand into a horizontal position, beyond which they are prevented from passing by the straps m^4 and m^5. The strap m^4, passes beneath the hand or wrist and its ends are attached to the under side of the upper end of the middle part of the device M, and which buckles around the arm of the wearer, to secure the upper part of said device to the arm. The outer ends of the straps m^5, are attached to the outer edges of the upper parts of the wings, and their inner ends are secured to the strap m^6, near the point at which it is to be buckled. Or, if desired, the straps m^5, may be made in one piece, passing beneath the arm, and having its ends secured to the outer edges of the said wings. L is a cord or strap attached to the upper part of the device M, and to the sleeve of the suit A, so that the said device, when detatched from the hand, and allowed to float upon the water, cannot float away and be lost.

A model, with the different modes of attaching and operating the apparatus, is now on exhibition at the office of the Life Saving and Ship Ballasting Company, No. 73 Cedar street, N. Y., where all interested can receive further particulars.

Practical Letters.

[WRITTEN FOR THE AMERICAN JOURNAL OF MINING.]

Relative Economy of Some of the Machines Used in the Ventilation of Coal Mines—No. II.

BY R. P. ROTHWELL, M. E., WILKESBARRE, PA.

[Continued from page 323.]

Without reference to diagrams it would be difficult to give any description of these several ventilating machines, which would be practically useful, and as our present object is merely to compare the practical results obtained by some of the more important of them, a minute description is not essential. In the north of France and in Belgium the Fabry ventilator or fan is that in most general use; its popularity is due to its comparatively small cost and great durability. The moderate velocity—from 25 to 40 revolutions per minute—at which they run diminishes greatly their liability to accident. A great number of experiments made with these machines have proved them to be very effective, and capable of moving from 20,000 to 35,000 cubic feet of air per minute, at a drag as high as 18 lbs. per square foot. The fans erected at the Bonne Esperance colliery near Charleroi, making 33 revolutions per minute, circulated 18,500 cubic feet of air at a drag of 15½ lbs. per square foot; the air courses having a section of 28 square feet, and the air a velocity of 11 feet per second. Comparing the useful effect with the force expended in the steam cylinder, it was found to be 71 per cent. These Fabry fans are used either in forcing or exhausting the air.

The Lemielle ventilator, though somewhat more modern than the last, is extensively adopted in France and Belgium, where they are deservedly popular. One of the first of these machines when running at the rate of 16 revolutions per minute, gave a useful effect of about 66 per cent. of the work done in the steam cylinder, while exhausting 21,000 cubic feet of air per minute at a drag of 15½ lbs. per square foot. These fans are used exclusively for exhausting the air.

Verzy's ventilator closely resembles Lemielle's, one of them erected at the Bois de Boussu mines exhausted 21,000 cubic feet per minute, at the enormous drag of 24.6 lbs. per square foot. The useful effect was therefore 16.6 horse-power. The high-pressure engine used to drive it consumed 5 lbs. of coal per minute. The return was consequently 3.32 horse power per lb. of coal, or more than double the exceptionally favorable return of the Ashton furnaces; four times the useful effect of the Tyne main furnace; and nine times the best result ever obtained with the steam jet.

Motte's application of the Archimedian screw to mine ventilation, is also used to some extent in the European mines, and was awarded a gold medal by the Belgian Academy of Sciences, in 1840. It can act either by forcing or exhausting the air, and has the advantage of not intercepting the communication between the mine and the exterior air when it is not working.

Let us now consider the results obtained with the air-pumps, so lightly esteemed by your correspondent on ventilation. The Hartz, or Cornwall duck machine, has long been extensively used in those localities. Struvé's modification of these bell machines has grown into very general use in South Wales and in Belgium. They are capable of exhausting from 50,000 to 100,000 cubic feet of air per minute, and yield easily a useful effect of 40 per cent. of the work done in the steam cylinder. Experiments made by M. JOCHAMS, in Belgium, with one of these air pumps, making 17 strokes per minute, showed a current of 24,000 cubic feet per minute—the theoretical amount being 30,000 cubic feet—at a drag of 15½ lbs. per square foot. The velocity of the air current was about 16 feet per second, and the effective work done by the air-pump was 93 per cent. of the theoretical volume it was capable of moving, and about 65 per cent. of the work done in the steam cylinder.

A better form of pneumatic machine is that known as Nixon's ventilator. It closely resembles an immense blast engine, such as are used in connection with iron smelting. The cylinders of one of these ventilators recently erected at the Navigation Pit, near Aberdare, have pistons 30 by 22 feet, or 660 feet area each. They have a stroke of seven feet. The theoretical volume exhausted, or forced, at nine strokes per minute, would be 166,000 cubic feet. From this a certain amount has to be deducted for leakage, &c., but it is evident this machine is capable of producing a current largely in excess of the requirements of even a very extensive mine. It is to be regretted that the useful effect obtained from this ventilator has not yet been ascertained, or, at least, in so far as I know, been placed on record. The pistons of this ventilator run on rails laid in the cylinder, and "the chambers are fitted as in Struvé's, with flap valves 16 by 24 inches, and 672 in number." Ventilators somewhat similar to this, though not so large, have been in use for many years in several of the continental mines, where they have given very good results. They are especially adapted to cases where it is required to exhaust or force air under a heavy resistance, and will work easily with a drag from 20 to 30 lbs. per square foot.

As a temporary expedient to effect ventilation in cases of emergency, as, for example, after an explosion, when the furnace or ventilating machine is out of order, the waterfall may be used with good results. Experiments made by Mr. GREENWELL, at the Blackboy colliery, in 1845, showed that the furnace ventilation of 8,394 cubic feet per minute was increased by the waterfall to 11,565 cubic feet per minute. In an experiment with the water-jet, where the water issued from holes 1-16th of an inch in diameter, a head current of 600 (?) feet per minute was attained in a gangway extending 700 yards from the shaft. The expenditure of water was only six gallons per minute. This method is applicable in many cases, especially where there is an abundance of pumping power, with an outlet for the water by an adit-level. It is, however, generally subject to the objection of adding largely to the water in the mine, and, by producing a dampness in the air entering the mine, it facilitates the decay of the timber used.

In conclusion, we may review the results obtained by these various ventilating agents, and make a few general remarks upon the conditions under which each is found most applicable. As regards the comparison of the steam-jet with the furnace, we will state the opinion of the eminent mining engineer, Mr. NICHOLAS WOOD, who made very extensive experiments with both. He says: "The practical result of all these experiments is, that within the limits or range of furnace ventilation, the steam-jet, acting as a substitute, is attended with an increase in the expenditure of fuel of nearly three to one, without any corresponding advantage, either in the steadiness, security, or efficiency of ventilation; on the contrary, from its simplicity of construction, the steadiness of its action, its less liability to derangement, its economy and its efficiency in cases of emergency, the furnace is a more secure, more safe, and more eligible mode of ventilation than the steam-jet.

"And with respect to the steam-jet as an auxiliary to the furnace, the conclusion is, that the increase of the jets over the furnace is quite inconsiderable; that such increase is extremely unsteady, in some cases nothing at all, when the furnace is urged to its maximum effect; and in the ordinary working state of the furnace (supposing the furnace kept within its limit so as to have adequate spare power in cases of emergency,) amounting to only 2 or 2½ per cent.; that such increase is, however, attended with a loss of power, or increase in the consumption of coal, as compared with the furnace, of nearly three to one; and taking into account the uncertainty of its action, and the fact that the increase of 2 to 2½ per cent., is only obtained when the furnace is about 10 per cent. within its maximum power, it is quite clear that the steam-jet is equally ineligible, and inefficient as an *auxiliary*, as when applied as a *substitute* for the furnace in the ventilation of coal mines."

Since the adoption of donkey pumps in our mines, it has been proposed, and in some cases carried into successful operation, to use the steam from the exhaust, to supplement natural ventilation, by turning it into steam-jets. This arrangement is merely an expedient to utilize the waste steam, and is only available while the pump is at work. To supply the jets with steam direct from the boilers, when the pump is not working, would, in general, prove very expensive. It cannot, therefore, be considered a means of *permanent ventilation*. In cases of accidents in mines, the low manometric pressure, or resistance which the jet is capable of overcoming, renders it far inferior to the fan.

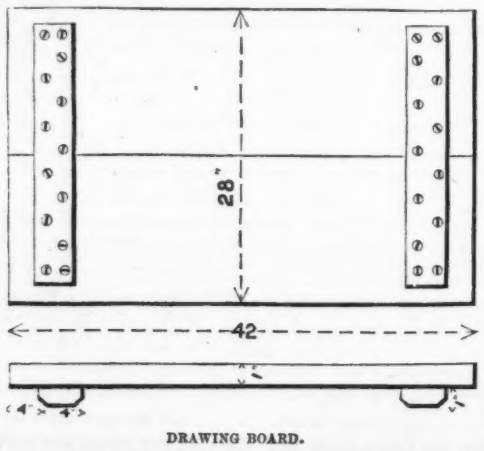
[WRITTEN FOR THE AMERICAN JOURNAL OF MINING.]

LESSONS IN MECHANICAL DRAWING.

BY T. P. PEMBERTON.

The Drawing Board.

The first things to be considered in relation to a drawing board are the size and material. Students are liable to make mistakes in giving wrong dimensions to their boards, from ignorance of the fact, that the size of the drawing board should always correspond with or at least approximate to the size of drawing paper which is manufactured and supplied in certain fixed dimensions, as given below. The drawing board should be, in its length and breadth, one inch larger than the sheet of paper to be used, and when paper is to be stretched or mounted, it should not be touched with shellac or other varnish, for the reason that mucilage or gum arabic will not adhere to a varnished board. The drawing board should invariably be well made by an experienced pattern-maker, and of the best material.



DRAWING BOARD.

The best kind of board that can be used for architectura or mechanical drawing is one made of good seasoned pine, to

the following dimensions: length, 42 inches; width, 28 inches; thickness, 1 inch; thickness of cleats on the back, 1 inch or more; width of cleats, 4 inches. The end cross pieces usually put on drawing boards, are very objectionable, on account of the unequal shrinkage of the body of the board with the grain of the wood running longitudinally, and the grain of the cross pieces which runs transversely, or at right angles with the former, always leaving shoulders or projections on the edges of the board, that preclude the accurate use of the T square. The best method is to place cleats on the back of the board, about 4 inches from each end, and to fasten them on with strong screws of a length that will allow the surface of the board to be planed from time to time, as it may require. The screws may be placed about 4 inches apart and "staggering." The edges of the board should be parallel and square one with the other. The surface of the board can be made slightly convex. When drawing paper is constantly mounted and stretched, the extremities of the board are liable to be pulled up, and this makes the centre of the board concave and causes a space between the board and the paper, but if the board is planed so as to be slightly "rounding," this inconvenience will be prevented. When drawing paper is not mounted, drawing pins or thumb tacks are used to hold it down to the board—hence the necessity of having the board of soft wood, if otherwise, the pins will be blunted, bent and difficult to press in and draw from the board; this operation can generally be done by the thumb nail. The size here given of the drawing board is the most useful and convenient, for it admits of eleven different sizes of paper being used at the draftsman's option, as will be seen from the following table of the names and dimensions of

DRAWING PAPER.

Name.	*Size.*	*Name.*	*Size.*
Cap	13x16 inches.	Columbier	34x23 inches.
Demy	20x15 "	Atlas	33x26 "
Medium	22x17 "	Theorem	34x28 "
Royal	24x19 "	Double Elephant	40x26 "
Super-Royal	27x19 "	Antiquarian	52x31 "
Imperial	30x21 "	Emperor	40x60 "
Elephant	28x22 "	Uncle Sam	48x120 "

1 Ream=20 quires=480 sheets.
1 quire = 24 sheets.

TO BE CONTINUED.

Mining Summary.

GOLD AND SILVER.

California.

Nevada County.—A correspondent writes from Mooney Flat that a new company, called the Blue Gravel Lake company, has been organized to work the famous Blue Lead of Sucker Flat, on that side of the ridge. Considerable feeling exists in consequence among the Mooney Flaters at this act, which they characterize as an attempt to jump their ground, and they declare their intention to resist the claim of the new company.... The *Transcript* (May 2) says that Neece & West have started up the machinery on the old Cozzens & Garber cement mine, between Red Dog and You Bet. They are now engaged in freeing the mine of water. The other cement claims in the vicinity are paying well, and the hydraulic companies at Red Dog and You Bet are all at work with flattering prospects.....Arrangements are being made which, at no distant day, will effect the development of mines in the vicinity of Columbia Hill to the bed rock. It is proposed to commence at the South Yuba river and open a bed rock tunnel in the direction of Grizzly Hill ... Under date of April 24, the *Transcript* says that the rock from the Rising Star, upon which the Cornish mill has been at work for some time, is all crushed and the gold cleaned up. One hundred and seventy-two tons were crushed, yielding, in the aggregate, $11,610, or $67 50 per ton. This claim is owned by A. H Hagadorn, Hugh McCauley, John Keenan, and Jack and James Pierd.....The same paper says that the Pittsburg mine still maintains its rank as one of the best in the county, and the company is about entering upon the spring campaign with increased forces. The mill is now running eight hours a day, and in a short time it will be running constantly. A short time since they were employing forty-five men, now they have over sixty, and in two weeks the force will be increased to over one hundred.....The owners of the Norridgenock mine (the machinery of which has stood idle since last fall) have determined to resume work.....The Banner Mining company are about adding ten more stamps to their mill. This will give them a thirty-stamp mill, and the rock obtained from the ledge will more than keep them all running day and night.....Shaw & Co. are engaged in mining at the lower end of Glenbrook Park. They have conducted water by means of an iron pipe, some four thousand feet, from the top of the ridge, and have a heavy pressure. They are taking out large amounts of gold. On the 1st of last month they cleaned up $2,500, and a short time since they found a nugget weighing fourteen ounces .....Since the strike by the Welsh company at Relief Hill, the miners in that locality have been greatly encouraged. The channel struck by this company is supposed to be a continuation of that worked by the Union company, on account of the similarity of the gold and nature of the deposits. If this be the case, all the companies working upon that range will eventually open on the same channel, and the little camp will grow to a respectable town. The Eagle, Welch, Union, What Cheer and North Star companies are now washing. The Union company cleaned up $3,400 last week. This is the ground in which the tremendous blast of 450 kegs of powder was discharged, last fall. There was a question as to the success of this blast, but the company is now opening on the ground loosened, and find that it did immense execution. The North Star company last week discharged a blast of 200 kegs of powder, which loosened up an immense body of dirt. Besides the operations of these companies, a large amount of prospecting is being done in the vicinity .....All the hydraulic companies in the vicinity of Little York have commenced washing with good prospects. Curran & Pattison are washing off the gravel above the blue cement channel in the old Remington claims, and after the first run of a little less than ten days, they cleaned up $1,500. The mining operations of the present season will be more extensive on the Little York ridge than for many years past.....Messrs. Mills and Murray have purchased some claims at Grizzly Hill, paying therefor $23,000. They will commence working the claims at an early day.....The new mill of the Nebraska Mining company, at French Corral, will be completed in about three weeks. The mill has ten stamps, and will be used for crushing the cement from the hydraulic claims.....At Eureka the Snap company have tapped a ledge 200 feet below the surface, the rock of which shows very rich with gold..... A miner named Joseph Lopez, but more generally known as "Portuguese Joe," recently struck an immensely rich pocket of decomposed quartz, while running a cut in the bed rock, near the old Excelsior saw-mill, on Rush creek. It is said he took out, in the course of three weeks, some $30,000, and then sold half the claim for $7,000. One pan of the decomposed quartz is said to have yielded one thousand one hundred dollars..... The *National* has seen some rocks from the Empire company's ledge on Ophir Hill, which was literally bespangled with gold. Nine days' run gave the snug little sum of over $15,000. The rock crushed was not specimen rock, but taken from the dump pile.....The same paper says that rock from the Idaho mine is now being crushed at the Sebastopol mill, in Boston ravine. It is said that the rock will probably yield from $50 to $75 per ton.....The dividing ridge between Wolf creek and Deer creek is attracting much attention on the part of miners. The Banner mine and the Whigham are on the northern slope, says the *National*, and the Norridgewock and McClellan are on the southern slope. The Eurekita ledge is on the Wolf creek side, and arrangements are about being made to run a tunnel from the level of that creek, so as to work the ledge at a great depth. It is also probable that the Annita company, which owns the northern section of the Eurekita, will run a tunnel from the Deer creek side, and the two meeting together, will form a tunnel of 3,800 feet in length, running in quartz throughout the whole distance.....The same paper, of April 30th, says: Frank Beckett, who has been up to German Level—vulgarly called Dutch Flat—informs us that the discovery of the great blue lead there is a verity. He saw some of the dirt which had been taken out of the shaft, and it looked splendid indeed. property at Dutch Flat had augmented in value fully 100 per cent. since the discovery, and business of all kinds has become lively in consequence.....The Grass Valley *Union* has a letter from Graniteville, from which we condense the following: The snow in Graniteville is six feet deep and is melting rapidly. The Birchfield company's tunnel is in 270 feet and the rock is first-rate. The Grizzly, situated at the head of Devil's canyon, will, as soon as they can get in with the balance of their machinery, finish their steam mill. They have been taking out rock all winter, and will have a fine supply of ore to commence on in the spring. The snow at Moore's is most gone, and the St. Lawrence Illinois. Plute and Hickey companies have commenced work. At Woolsey's Flat two or three claims have commenced working. The Boston company is testing the Giant powder. Marks & Co. are washing, and expect to make a large clean-up in a short time.

Placer County.—From the Dutch Flat *Enquirer*, April 25, we learn that Mr. Osmyn Harkness, after a run of sixteen days in his claim near this place, cleaned up the sum of $4,478. This is about an average of the yield of this claim. The expense of working the claim for the time stated, amounted to a fraction over $2,000, leaving a net profit of $2,300 ....."It is with feelings of more than usual gratification that we are enabled to announce," says the same paper. "that the Blue lead has been struck in this vicinity. This has been, it appears, a well established fact for several months, but the parties who were knowing to the discovery, for reasons of their own, thought best not to make it public until the present time. It appears from what we can learn, that Mr. Taef sunk two shafts in his diggings on the north side of the town last year, in one of which he found a strata of blue cement some 25 feet in depth, which prospected from 12 to 25 cents to the pan. This was all our town needed to give it an impetus. We have these facts from Mr. Taef himself, and three or four other persons who have visited the shaft and seen the gold, men whose veracity cannot be doubted. The time is not far distant when mills will be in operation all over our hills, and the music of the stamps be heard far and near.... The Auburn *Stars and Stripes*, April 23d, says: We learn that work upon the Rising Sun quartz claim, near Colfax, is being prosecuted with much vigor, and that at the depth of 118 feet, rock has been taken out that pays from $100 to $150 per ton.

Plumas County.—The Quincy *Union*, April 25, contains the following: Elwell, of the '76 quartz ledge, has improvised a novel way of getting quartz from the ledge to the mill. While the snow was soft he filled some canvas sacks with rock and threw them down the hill in a straight line. The sacks pressed the snow and made a trench. He repeated the process a few times, and now he has a fine shute. The bottom and sides are frozen solid as ice. He fills about 20 sacks and sends them down in one train. It is the cheapest and best method for getting the quartz down the hill ever adopted at that mine.....White & Ballou's claims, at the Willow Ranch mines, are paying about $6 per day to the hand. Jackson & Jolly are piping; they have a good head of water, and are running off huge quantities of dirt. They will make a big clean up when the water falls. $2,000 was offered for one-half interest in these claims a short time since, and was refused.....On the night of the 16th the small quartz mill on Dixie cañon, belonging to Martin & Brother, was destroyed by fire. The loss is estimated at $3,000.....The *National*, of same date, says that the owners of the Enterprise mine have a body of silver ore in sight, and that all the machinery for erecting a mill is on the ground. There is every indication that in a few months the actual value of the ore will be determined.

Tuolumne County.—We learn from the Sonora *Democrat*, April 25th, that the Enterprise ditch, which runs along the banks of the Tuolumne river to Don Pedro's, has recently been purchased by Messrs. Chase & George Anderson. They have a good bank claim at Indian Bar and are preparing to work it by hydraulic power.....The Ruffle-tail mine at Whitman's Pass, has been purchased by Jas. W. Tulloch. The mill is now running, and a full force of men working on the mine. The rock, as far as the vein is developed, will pay $100 per ton.....At Moccasin creek, there are still a few good claims owned by white men, but Chinamen constitute more than half of the population, and are working the flats and bars where 75 cents per day can be made. There is nothing doing at present in any of the quartz claims on the Mother vein which runs on the east side of Moccasin creek. The Miller-hill mine has had just work enough done upon it to keep it from being "jumped." We presume such also is the case with the Rising Sun, King Phillip and all the others. These mines are unfortunately owned by parties who have not a sufficient amount of capital to develop them.

Alpine County.—We have the Monitor *Miner* of April 25. From it we learn as follows: The Rippon company is getting a change of rock in the tunnel, and making good headway toward the lode.....The I. X. L. company is still taking out ore, and has a large quantity at the mine which only waits the opening of the Scandinavian road to be taken to mill and turn out bullion. .....The Pennsylvania company continues to meet with encouraging symptoms of the ledge ahead, in the shape of quartz feeders and other indications which give promise of a good thing when they do get it.....The same paper of the 18th says: We hear very encouraging reports from parties who are at work in the Morning Star mine. One who formerly worked in the upper level tells us that they are now taking out a better quality of ore than ever before.....Like the Schenectady company, owning the Tarshish mine, the owners of the Leviathan stock are in a scramble for the control, and the working of the mine will be delayed to June 1st, or later.

Sierra County.—The Shasta *Courier* says that the Batchelder brothers propose commencing work again in their South Fall claims. Parties from Chicago, Ill., who possess abundant capital, are expected to arrive within a few days, for the purpose of examining ledges with a view to purchase.....McPherson & Co. have completed their flume at Piety hill, and commenced sluicing operations. The flume is over 400 yards in length, and contains about 12,000 feet of lumber. Three hydraulic pipes are kept in operation day and night. This claim is the most extensive as well as the most promising placer mine in the county. .....The Docile mill has been stopped and will not commence crushing until the claim is more fully opened and rock easier to be got. It paid well to the last.....The bed-rock tunnel of Cox & Co., at Scales diggings, is progressing finely.....The Port Wine correspondent writes: The Golden Gate has struck good pay, turning out gold at the rate of $6 to the car load, and the Monte Cristo took out, in two weeks, $2,800.

Sonora County.—From the *Union Democrat* of April 11th we clip the following: The mines of Saw Mill Flat are now fairly to work after the severe winter. Wheels and pumps are running without intermission, keeping the deep claims dry. Last week Goodrich & Co. found a piece of nearly pure gold, there being not more than an ounce of rock in it, which weighed 36 ounces. Their claim is known as the old Dow claim..... The mill on Grizzly mine has been for some time past and is now running, but has not cleaned up yet. We heard that the vein looks remarkably well, and that splendid rock is being taken out. The Grizzly mine is situated 10 miles east of Sonora, in the mountains.....There has been quite an excitement created in the lower part of the county by the discovery of some very rich diggings on Big creek, about two miles from Ballard's. They are said to pay $25 to the pan.....The deep claim on Brown's Flat escaped the floods of winter remarkably well. Only one got filled with gravel. All the others were filled with water but have been pumped out some time ago, and miners are busy making up for lost time. The number of wheels revolving and pumps running gives the place a business appearance, even on Sunday. Some of the best placer claims in Tuolumne county are at Brown's flat.

Calaveras County.—We have news from this county to April 25. The *Chronicle* says: Mr. Said is making rapid progress in the development of the "Petticoat," at Railroad Flat. He is taking very rich rock from the new shaft, and is preparing to sink the one from which the former owners obtained $202 to the ton ore, to a depth of 100 feet, when he will run a "level" between the two, a distance of 200 feet. It is reported that $10 was taken from less than one pound of rock from the Mexican claim, back of French hill, of which we spoke last week. Pennell & Co. are at work on a ledge which runs parrallel with the Mexican, is much larger and prospects equally as well.....The Water Co. are making rapid progress with their ditch, and will probably have it completed by the 1st of June. The aqueduct, which is about thirty feet high, and 700 or 800 feet in length, designed to carry water across the sag to Buena Vista hill, is about ready for use.

Mono County.—The Gold Hill (Nevada) *News*, April 16, says: "At the office of Dr. Ellis, in this town, yesterday, we were shown a box full of rich ore from the Arctic mine, Mono county, California, on the headwaters of Walker river, some 70 miles from Carson City. The ore is a very rich character of argentiferous galena, similar to the ores of the New Truckee district. Some of it will yield 70 per cent. of pure metal, lead predominating, yet assaying very richly in silver. The quantity of ore we saw would yield 60 per cent. of metal. The ledge, so far as developed, is about four feet in width, and from the surface to about 15 feet in depth, some 40 tons of this same rich character of ore has been extracted. The mine is not being vigorously worked at present, but during the coming season rich and very valuable developments are expected from it."

Amador County.—The papers say that placer mining about Volcano, as elsewhere in the county the past spring and winter, is unusually prosperous. Claims on the old Hartrum ranch are said to be paying as high as $100 per day.....The Coney and Bigelow mill is now in full operation, with an abundance of rock to keep it running night and day.....The sulphurets taken from the Oneida mine and worked in the chloronation furnace of Coney & Bigelow, yielded $115 per ton.....The Jacksonville *Ledger*, April 18, says: Sunday last the Oneida cleaned up their regular fortnight run, and the return amounted to over fourteen thousand dollars. This is the largest amount yet taken out at one time, and proves that the mine grows richer the deeper it goes.

Napa County—The *Register*, April 11, says: We have a piece of ore, presented to us on Monday last by Maj. Sterling, of St. Helena, which was taken from a ledge four miles above that town, in the mountains. The existence of the ledge has been known by parties in that vicinity for years, having been first discovered by David Hudson. It was once supposed to be copper, but was, we believe, never tested or examined by competent judges of mineral ores. The specimen before us is said to contain about ninety per cent. of iron, and is consequently very rich. With her quicksilver yield and iron—should this prove a genuine article—Napa will yet be one of the richest mining, as well as farming, counties in the State.

Siskiyou County.—From the Yreka *Union*, April 18, we learn that the miners on Indian creek are at work, and the yield is worthy of the early days. Messrs. Miller & Baker, for thirteen days' run of their hydraulic, cleaned up $1,000. Mr. Rushmore, for eleven days' run, cleaned up $1,800.....Cottonwood is likely to be more lively the present season than it has been for several years. The success of Shaft, Smith, & Co., in working the Klamoth river last year, has given a new impulse to river mining. Instead of a single claim this year there will be eight or ten worked.

Tulare County.—The Visalia *Delta*, April 15th, says: "John D. Carter, Superintendent of the Philadelphia company's mines, located at White river, in this county, returned last week from a trip to the East on business of the company. Mr. Carter informs us that he intends to commence operations immediately and prosecute the work with vigor, having made extensive arrangements for that purpose. From what we know of these mines, we expect to hear of a large yield pretty soon."

Trinity County.—The *Journal* of April 25 notices the approaching completion by Joseph McGillivray of a canal through which the waters of Canyon creek are to be carried to the benches and bars lying between the Canyon creek crossing and Independence Bar. The canal, when completed, will be six miles in length, with only a few rods of flume.

Mariposa County.—The *Mail* of April 24 has a letter from Hite's Cove, which says: "There are now about 25 men at work getting timbers and digging the foundation for the new mill, which will be 20 stamps. Hite's Cove will then be thoroughly resuscitated, with twice her former importance, as regards mills, money and men."

Nevada.

The Comstock.—The San Francisco *Commercial Herald*, May 6, says: The mining share market during the past week retained the activity noted for some months past, but prices exhibited a downward tendency up to near the close, when a better feeling manifested itself, and a slight rally took place. We may reasonably look for a continued improvement, since most stocks had fallen to a comparatively low figure. In regard to the developments through the Imperial-Empire shaft, it is our firm belief that the ledge will be reached before long, and the indications undoubtedly are favorable to this view. When this does occur we may look for a sharp advance—probably greater than the prospective prices recently obtained. This will cause renewed energy in others, and a more general activity will speedily follow.....Hale & Norcross sold at $1,970a$2,000. The 1,080 foot station has been opened, and drifting will soon be commenced. The capital stock of this company has been increased

to $1,600,000, divided into 8,000 shares of $200 each. This will make twenty shares to the foot. We have nothing of special interest from the mine. The office of this company will be removed to Hayward's new building, on California street, early next week.....Crown Point opened at $2.305, advanced to $2,350, seller 30, declined to $2,200, and closed at $2,380. On the 28th of April, the 800 level east was not looking so well, but in the afternoon ore was making to the east again, with every appearance of widening. A dispatch of May 1st, states that the 800 level, in going south, showed great improvement—porphyry on the west side giving way to good pay quartz. Extract about 150 tons of ore per day. The receipts of bullion to date for April foot up $103 511. The ore will average $38a$40 per ton during the month of April.....Savage was quite active at a decline, receding from $159 to $152, and closing at $158. During the week ending April 25th, 1,483 tons of ore were extracted, showing an approximate value of $33 81 per ton. From the north mine, on the third station, a large amount of good ore continues to be extracted; but the south mine, on the fourth level, as they approach the Hale & Norcross line, is growing poorer. The winze on the fifth station from this point is 111 feet in depth, and said to continue in good ore. The connection will soon be made with the fifth station. The north mine on the fifth station looks very encouraging, and the south drift has improved considerably, while the west cross-cut, run to connect with the winze from above, is said to show six feet of good ore.....Imperial exhibited marked activity during the period under review, dropping from $290 to $225, and closing at $247. Commenced work in the lower drift on the night of the 3d; on the morning of the 4th one foot of water remained on the station floor.....Empire sold at $302 50a$260.....Gould & Curry was in the market at $575a$535, closing at $555. We observe that A. K. Durbrow has assumed the duties of Secretary, while Mr. Bowie, the former Secretary, will soon leave to take charge at the mine.....Kentuck declined from $485 to $430, and closed at $465. Bullion receipts for April account foot up $73,765 .... Ophir receded from $210 to $170, closing at $185. The new shaft is about 215 feet in depth, and is sinking easier .....Overman gradually fell from $166 to $109, rallied to $145, and closed at $134. Extract about twenty-five tons of ore daily from the 500 level, which, it is said, should yield $35 per ton, and about 80 tons of various grades from other levels. Bullion receipts since our last issue, $13,400.....Lady Bryan sold at $38a$25, closing at $28. We are informed that no compromise has been made or entertained. Neither has any patent been issued by the United States, nor will be, until the suits now pending in Virginia have been decided.

Lander County.—QUARTERLY RETURNS OF THE BULLION PRODUCING MINES. Our corrrespondent gave us, last week, the returns of a few of the most prominent mines in Lander county, for the quarter ending March 31, as exhibited by the books of the County Assessor. The *Reveille* comes to us with a fuller report, and some pertinent comments. It says: "The list contains the names of only twenty-seven mines and companies against sixty-one which appeared in the list for the previous quarter, although the sources from which bullion was obtained were more numerous in the past than any previous quarter. In the returns for March 31, there are, besides the twenty-seven names of well known mines, the names of forty-six individuals, specified as producing bullion during that quarter. This loose practice, which is persisted in, and grows worse from quarter to quarter, defeats one important object of the law, which was to collect data of the mining resources of the different counties of the State. It is to be hoped the law will be so amended as to place it within the power of the County Assessor to compel the owners of reduction works to ascertain and return the actual name of the mines or companies which may bring them ore for reduction.

Mine or Company.	Tons.	lbs.	Av. per T
Aurora	7	1478	$255 75
Buel North Star	6	328	219 85
Chase	14	1510	124 94
Fortuna	26	1496	130 29
Harding and Dickman	13	973	233 50
Irabella	2	1734	821 60
Magnolia	98	669	243 19
Maey's	4	468	125 55
Morse	7	——	250 43
Manhattan Co.	761	347	154 35
Niagara	1	372	140 71
N. Y. & Austin Co. (Florida.)	210	1627	361 24
New York Co. (Troy.)	28	1358	264 44
Posey	3	1348	145 99
Social and Steptoe Co.	217	——	66 49
Sam Brannan	1	884	122 83
Silver Parlor	2	1144	71 75
Semanthe (Craycroft's)	3	690	253 93
South American	3	738	100 45
Savage Consolidated	17	1534	245 21
St. Louis (Cortez)	12	919	399 50
Shoshone Co. (Great Eastern)	105	1412	105 81
Timoke	79	1199	222 83
Vedder Co.	5	798	307 07
Wisner	2	1072	106 25
Washington	6	297	286 07
Yosemite	1	1111	120 10

The number of tons of ore produced and sent to mill during the last quarter amounted to 1,753, against 2,111 for the preceding quarter. The total yield of these tons was $318,825 29; which gives an average per ton of $181 87. It will be understood that the computations are in currency. As compared with the two preceding quarters, the return for the last exhibits marked changes. For instance, the Diana, which produced substantial amounts of bullion during those quarters, does not appear in the return for the last quarter; and so of several others. The production of ore by the North Star mine of the Manhattan company has been remarkably uniform for the last three quarters, although its value decreased during the quarter ending with March. For that quarter it produced 761 tons, averaging $154 36, against 721 tons, averaging $248 62, and 760 tons, averaging $251 20, during the quarter immediately preceding. The increase in the production of valuable ore by the Florida mine of the New York and Austin company will not escape the attention of the careful reader. Its return for the last quarter gives 210 tons, averaging $361 24, against 155 tons, averaging $274 49, for that preceding it. The production of that mine has increased steadily for the past year. The Gilligan mine of the Social and Steptoe company, at Eagan canyon, returns 217 tons, averaging $66 49 per ton. This low average results from working the ore without roasting; but this is likely to be obviated before the close of the advancing summer by the erection of a large and perfect mill. The Great Eastern or the Shoshone company produced 105 tons, averaging $105 81, against 60 tons, averaging $313 14, for the preceding quarter. The Magnolia returned a product nearly similar both in quantity and value to that of the preceding quarter, being 98 tons, averaging $24 19, against 94 tons, averaging $272 11. The Timoke, which has produced largely for several quarters, fell off considerably during the last, and returns only 79 tons, averaging $222 83, against 332 tons, averaging $161 84. The forty-six names which we have omitted in the list, because they are of miners and not of mines or companies situated in the county, are of no value to the return. Most of the parties are engaged in "chloridizing," in some instances, perhaps, clandestinely by the light of the moon, or when the cock crows, and they will not give the name of the mine from which they obtained the ore, to the officer of the mill. This bad practice leads to some queer results. We heard of a case where parties delivered a lot of ore to a mill as coming from a well known mine of Yankee Blade, and when the value of the ore was ascertained the amount was settled. At the expiration of the quarter this item was embraced in the return of the mill to the Assessor, who called on the owner of the mine and demanded the tax on the bullion produced. The owner was astonished and protested, for he was not aware that an ounce of ore had been taken from his mine, and of course he had seen none of the bullion. But he assured us he had to pay the onerous tax nevertheless. From the present appearances the product of the current quarter will be greater than that of the last, for several of the most productive mines are ahead with their "dead work," and in a condition to extract ore. Besides, the mill of the Centenary company in the Newark district, will soon be set in motion on a large lot of excellent ore."

Nye County.—QUARTERLY RETURNS OF BULLION PRODUDING MINES. The *Silver Bend Reporter* says: The yield of mines for the past quarter has not been as large as formerly, as will be seen by the following table from the books of the County Assessor. The report covers the months of January, February and March, and to the inclemency of the weather, rendering a cessation of labor necessary, the falling off can be properly attributed:

Name of Mine.	Tons	lbs.	Av. per T
Murphy, (Twin River)	664	1000	$127 16
Transylvania No. 1. (Transylvania Co.)	289	....	26 72
El Dorado North, (Belmont Co.)	7	1000	84 76
Highbridge, (Combination Co.)	730	1308	154 66
El Dorado South, (Leon Co.)	18	1059	160 58
Reveille, (Robt. Mitchell,)	9	92	177 19
" (Prometheus Co.)	1	60	160 77
" (T. J. Tennant,)	..	912	182 60
Hot creek, (J. W. Gally.)	..	1300	81 47
" (Old Dominion Co.)	6	1740	70 00
Hall & Emerson, (Morey district,)	12	1650	162 92
Liberty mine, Rigby S. M. Co., (San Antonio district,)	114	1404	122 97
Revenue mine, (San Antonio district,)	1	949	360 25
S. McMasters, (Union district,)	6	310	74 26
Savage, "	13	541	125 72
Alice Wright, "	13	15	57 41
Pleiades, "	..	1142	252 03
Victor, "	11	1660	152 84
Astoria, "	1	258	140 45

Humboldt.—The *Register*, May 9, says: The Essex mill, at Dun Glen, is in complete order and doing fine work. One hundred tons ore from the Monroe mine has just been put through the battery, and is now being worked in the pans. This ore, we understand, will yield satisfactorily. About 100 tons more of this ore is ready for the mill, and will be converted into silver bricks immediately.

Reese River.—The fine ten stamp mill of the Mettacom company, which has been closed for several months, will be opened immediately for the reduction of ore. For its capacity, says the *Reveille*, the Mettacom mill is one of the most perfect in the State, and it will be conducted by John Howell, who built it and managed it successfully for months.

Pahranagat.—The *Reveille*, of the 13th ult., notices the arrival at Austin of seven bars of bullion, being the first product of Ostrom's mill, in Pahranagat district.

Colorado.

The following article on silver ores, clipped from a paper by F. Schirmer, in the *Colorado Miner*, is quite interesting in showing the action of atmospheric agencies in changing the nature of mineral deposits in veins, in so far as they lie within their reach. As regards his strictures upon the popular notion that fine grained varieties of galena are richer than coarse grained ores, we would be far more severe than he. We would say that the physical texture of the galena forms no basis whatever for any conclusion in regard to the amount of silver that may be contained therein:

SILVER ORES.

In many lodes, after digging a few feet through the blossom-rock (gossan hydrated paryoxide of iron of other countries,) we find as principal ore:

1. Sulphurets of silver in two varieties, as silver glance and sternbergite. The former, if pure, contains 87 per cent. of silver and 13 per cent. of sulphur, and the latter from 30 to 33 per cent. of silver, 86 per cent. of iron, and 30 per cent. sulphur. Often we find these ores in large and massive pieces, but generally finely disseminated in the cavities of a honeycomb gangue-rock. These cavities were once filled by other ores, such as sulphurets of lead, copper, iron, &c., in which the above silver ores were finely impregnated. Near the surface, where all the atmospheric agencies could constantly reach on them, these sulphurets of the baser metals were gradually oxydized, and soluble combinations formed, which were dissolved out, while the nobler metal, silver, was left behind. The gangue-rock in the principal lodes, is a feldspathic rock, decomposed and friable near the surface, but its constituents can be plainly distinguished where greater depths are attained. They are an admixture of quartz and common feldspar, with small particles of white silvery mica (a granite rock, peymatite.) In other lodes the gangue-rock is principally quartz, and in shallow depths we find it very often honeycomb, as stated above.

GALENA.

2. This is the most frequent silver ore of the country. When pure, galena contains about 86 per cent. of pure lead, and about 13 per cent. of sulphur. Often we find true silver ores, such as pyragyite (ruby silver,) silver glance, native silver, stephante, &c., finely impregnated in the galena, and its yield in silver I have found as high as 9 per cent. I will here state that the U. S. standard of silver is 900 fine, and its value $122 05 per ounce, troy, one (one ounce of 1,000 fine, equals $1 36,) one per cent. of silver contained in a ton of 2,000 pounds, avoirdupois, is therefore worth $396 98. The percentage of silver in this ore, varies not only in the different lodes of the country, but even in the same vein, and as many miners judge the richness of silver in galena by superficial appearance, viz., the fine-grained varieties richer than coarse-grained cubical ones, I will say that this proves often to be erroneous, and that an accurate test is the only sure way to determine the value.

The editor of the Central City *Herald* thus writes from Georgetown: We have many reasons for believing that Georgetown is going to experience a genuine silver excitement this summer. The premonitory symptoms are apparent to the most casual observer, and the probabilities are that the capitalists will go as much too fast as they before went too slow. Colorado has experienced one gold excitement, and has paid dearly for it, too; but the first silver excitement is yet to come. The main reason for our belief is found in the actual developments of a few lodes. They were not considered by any means the most promising in the district when first discovered; but since they have shafts sunk and tunnels driven upon them, they have eclipsed others which were first discovered, and set the community wild with excitement over the richness of the surface ore. Lodes which at one time some people thought never could be valuable for anything more than lead, have recently turned out to be immensely rich in silver. One lot of ore we know of, which was packed down from the mine simply because the animals would otherwise have had no load, and was carelessly thrown in a pile at the foot of the mountain, was accidentally discovered to be the very finest kind of silver ore. Almost any specimen examined proved to contain ruby and brittle silver, and sixty pounds of pure silver were actually obtained from three tons. Yet this identical ore was thrown aside as almost worthless. The Wheeling lode, situated on the eastern slope of McClellen mountain, was acknowledged by all who saw it, or a specimen of the ore from it, to be one of the richest silver mines ever heard of. Everybody was talking about it, and nearly everybody had a specimen of it, which had been burned in the fire in order to make the little silglobules appear on the surface. Tons of ore were carried away in people's pockets. Unfortunately, the owners of the lode were too numerous and too poor to develop it. The absense of silver reduction works made its development an expense from the beginning; consequently it remains undeveloped. Its owners are still poor, and its very name is almost forgotten. Other lodes, which were then considered as below second-class, have proved to be of immense value, and are now in condition to yield immense fortunes to their owners. The Wheeling lode is only one of many that have exactly similar histories. The owners, in some instances, are actually afraid to develop them properly for fear they would play out! They were anxious to sell, and would not work the property for fear they might spoil the looks of it. However ridiculous this idea may seem, it is, nevertheless, true; and we have still a few of these fools left. It is a satisfaction to know that the day for selling undeveloped property has gone by forever. There is an air of thrift and progress about Georgetown now, which is encouraging to see. Everybody is busy—no loafers in sight. The telegraph recently put up, too, gives the town an appearance of more consequence than it ever possessed before."....Telling of Clear Creek county, the writer continues: "Creek mining seems to engage the attention of all just now, and from the appearance of the fixtures we noticed along the creek, we are confident that a larger quantity of gulch gold will be taken out this summer than that produced in any other year since 1860. Fall river is quiet. The mining companies are not working, the gulch mines are too far down the creek to add much life to the town, and the man of the mountains seems to frown down upon the picturesque little town on the creek, and the two well-conducted hotels will always make it a pleasant place to visit. Good trout-fishing is found in Fall river, and it is now likely that the silver works will kill all the fish in Clear creek, so that the town of Fall River will still remain the most inviting place of resort for those who take pleasure in fishing. The mining companies which have erected works in the vicinity, have good property, and it will one day be made profitable to the owners. But they have been sorely afflicted with processes in times past, several big fortunes have been absorbed, and the works erected are practically useless. Mill City and vicinity is the busiest lode-mining locality below Georgetown. Many valuable silver mines have been discovered here, and the majority of them are now being actively developed. There is now no longer any doubt about the richness of the ore or the quantity to be had. At present the only process in use is the old-fashioned arastra, which treats the surface-ore quite successfully. Mill City has a neat little church, two groceries and one substantial looking hotel. The citizens talk of starting a public school this summer. They will have children to justify it by uniting with the families scattered along up the creek as far as the Young America works."....From files of the same paper to May 26, we condense the following items of news: Moses Hall has started up the Lexington mill on George Mitchell's Illinois ore. .....Mr. John Young started the Stoner mill in Nevada on ore from the Mercer county or Flack, on Quartz Hill, which he is now running successfully. With the Lexington and Stoner at work, every stamp mill but one in Nevada gulch is now running as follows: Lexington, 24; Porter, 18; Sykes, 12; Ophir, 24; Philadelphia and Colorado, 25; Stoner, 12; Mansur, 12; New Bedford, 12; Beverly, 12; unknown, 12; in all, 163 stamps rattling away day and night. Probably that one idle mill will soon be shamed into going to work, and then the only machinery not put to some good use will be the three or four Crosby and Thompson "monuments" scattered along the gulch, which might as well be sold for old iron and lumber, and the ground cleared to give place to some useful and paying stamp mills..... Mining (in South Clear Creek) is being prosecuted with great energy along the creek, and a great deal of gold is being taken out. Wright & Candeld cleaned up 51¼ ounces of dust last week on Grass Valley bar, working four men.....Brazier & Co. are mining on Chicago bar. Their claim, which had been producing considerably, gave out a little while ago—apparently "petered"—and two of the company became discouraged, and sold out their interest for a small sum to the other partners, who believed in "never say die!" and who continued to work with poor prospects until last Friday, when they struck a streak of pay, yielding one dollar to the pan. They appear now to have a rich "lay out." Dick Skinner and "Esus Kris" have shut down temporarily on Illinois bar, in order to put in a new pump. .....Cooper & Schaffler are busily at work opposite the mouth of Chicago creek, with a capital prospect .....On Spanish bar considerable mining is being done.....Captain Dean and a party of Californians let water into the upper ditch on Grass Valley hill yesterday morning—the first water which has been run in there since '60—and are confident they have a "big thing."....Griswold & Harder are taking excellent pay from their claim near Grass Valley bar. The general prospect is much more cheering than it has been in years over there, and the miners are all in good spirits, and confident of making a fine summer's work. The only article at a discount is whiskey; as we are informed by a reliable gentleman that they have just started the biggest good templar outfit at Idaho that has yet been organized in the Territory.

From the Central City *Register*, of the 21st ult., we condense the following items:—The Mendell mill, a twelve-stamper, is crushing surface ore from the Greenlee lode, located at the head of Eureka canyon. The quartz and dirt yield about four ounces per cord. Messrs. Tascher & Co. are in charge, and they expect to commence crushing from the Great Republic, situated on Quartz Hill, in the course of the week. A large pile of material from the lode is now piled up at the mill awaiting treatment. The Kimber mill, just above, is crushing iron from the Clark-Gardner property. The yield ranges from five to eight ounces per cord. This mill has not been idle in twelve months. During that time it has reduced three hundred cords of ore taken from various mines. The standard price for crushing is forty dollars per cord .....Mr. Stevens has an arastra a short distance below the Mendell mill in Eureka, which yields himself and partners about one hundred and sixty dollars per week, from surface ores mined in company from the Grey Eagle, near by. They reduce and amalgamate about two cords every week, which returns from four to six ounces gold per cord.....Warren Hussey & Co have bought in the last three weeks, seven hundred and fifty ounces of gold in miscellaneous lots, produced by various small operators. They expect to make it an even thousand by next shipping day. Mr. Young says the prospects for a very large general shipment next Tuesday are most favorable.....Mr. Beach employs only a light mining force these days, owing to the necessity for a partial cessation of work to repair the mine, and erect additional hoisting works. This will require ten days or two weeks time, during which but little gold will be taken out.

.....The gold shipments for three days of last week amounted to twenty-four thousand dollars. Look out for good news next Tuesday.....The Black Hawk Co's. pump will be in position, on the Gregory, in about two weeks....We saw, a few days since, about 200 lbs. of ore, taken from a pocket in the Hoosier mine, Gold Hill dist., an average sample of which yielded, by fire assay, $1,032 80 silver, and $3 26 gold, per ton. A ton of this ore has just been sent to Crosby's works, on South Boulder, for reduction.... The bar mines about Idaho have been producing more gold than usual during the past two weeks. Le Goult, Le Caille, & Co., three men, took out eight ounces last week from three days sluicing. Wright, Clenfield & Co., five men, took out thirteen ounces. Scovill & Sigel, three men, got seven ounces. Jore, Lee & Co., on Grass Valley Bar, are getting good pay, but we did not learn the amount that they got last week. Shaffer & Co. and Cooper & Craven are sinking shafts on Clear Creek, opposite the mouth of Chicago Creek, with encouraging prospects. Hobbs & Needham are just getting started on Grass Valley Bar. Their dirt prospects well. Sisty, Spruance, and Noxon are about commencing work just above the bridge at Idaho. We saw yesterday morning, at Patten & Bogues', thirty ounces of dust brought in last week, eighteen ounces of which were from Wright, Clenfield & Co.'s claim, four miles below Idaho, and was the cleanest and brightest gold that we have seen this season.....The Consolidated Ditch is in readiness to supply the Nevada mill with water.

Montana.

The attention of the people of Montana is for a moment diverted from quartz mining to placer mining. From all accounts the latter branch will, during the present and passing season, be prosecuted with great fervor and with befitting reward. Many of the gulches are paying remarkably well, notwithstanding water is very scarce, and the miners can work in some of them only for a few hours a day. The new Lincoln gulch mines, according to the *Post*, are yelding daily "pans of golden grains," and promise still greater prosperity. That paper says: "There are one hundred and eight claims located in the gulch, seventeen of which are now yielding large quantities of the precious metals, and thirty-three others of which are in process of being opened. The ground prospects from 15 to 40 cents to the pan, and it is estimated that not less than $500,000 will be washed out from it during the coming two months. A clean up of $1,100 was recently made from a ten hours run on claim No. 5, only four men being engaged in shoveling into the sluices. There are five hundred men in the camp, and the number is being constantly increased by accessions from all portions of the country. There is more building being done there than in any other section of Montana, and we have not seen a livelier place since the early days of the Territory. Stores, hotels, saloons and places of business of every description, spring up in the true old-time style, and a life picture of the elevated goose is everywhere presented. Spring gulch, a tributary of Lincoln, has twenty claims recorded upon it, and is now being opened. Its ground prospects from 10 to 40 cents to the pan. Like every new camp, Lincoln anticipates still greater prosperity in the future, and claims that its mines will furnish employment for 2,500 men at no distant time."

Speaking of Bear gulch and the small gulches in its vicinity, the same paper remarks: "A scarcity of water is very detrimental to the interests of this section of the country the present season, nevertheless much gold is being taken out. The small gulches in the vicinity of Bear are paying remarkably well where water can be obtained. At the head of Deep Gulch, six miles distant from Bear, eight or ten claims are yielding enormously during the few hours that they are worked each day, the runs ranging from seven to seventy-five dollars per hour, with from four to five men shoveling in. It is, however, impossible to obtain water for more than three or four hours per day. What makes the yield still more remarkable is that the claims are not yet worked to bed-rock. It is proposed to bring a ditch a distance of thirty-five miles, from Nevada Creek, or from a lake some fifteen miles distant, for the purpose of rendering a thorough working of this gulch practicable; but it will not probably be constructed during the present season. The gulch will doubtless pay for a distance of six miles, but the small amount of water obtainable at its head sinks after running a short distance, and the immediate working of the gulch is thus prevented."....The *Post* continues: "Gulch diggings have recently been struck on a tributary of Lump gulch which promises to be of considerable value, as the ground for three miles along it has been prospected, and proves to be good, from two to twenty-seven cents per pan having been washed from different claims. Several strings of sluices are already in operation, and we expect to hear of some good runs being made in a few days."..... The same paper thus speaks of the newly adopted steam machinery for placer mining, an account of which we print elsewhere: "The first steam machinery brought into successful operation in placer mining was completed two weeks ago on Messrs. Taylor, Thompson & Co.'s claim, No. 5 below discovery in Last Chance gulch. .... The depth of pay gravel on this claim is 32 feet; but no real bed-rock having been found in this part of the gulch, the real depth can only be guessed at. The yield per man for the last two weeks we state not, but have positive assurance that "it pays grub and expenses." At present, these works are manned by twenty hands, day and night, which number will be greatly increased as soon as the additional improvements are all completed. Immediately below Taylor, Thompson & Co.'s steam works are similar ones driven by horse-whim and, withal, constructed in arude way; all, however, are paying well..... We learn of the Crow creek mines from the same source: "The big ditch is now complete and work has commenced in good earnest with satisfactory results. Radersburg is the largest mining centre of its size in the Territory, and has received numerous additions to its citizens from Virginia City. George Hill and Sol. Content are opening a saloon and club room. John Culver, of the Eagle stables, has taken up his abode there and turned an honest miner; Bill Deasey is building a hall for his billiard tables; Barrett & Mimms have moved their stock of merchandise from Springville to that place. Everything indicates a prosperous mining season, but the clerk of the weather for the Crow creek mines seems to have forgotten that we are in the middle of May, for he treats the good people of that section to frosts every night."....."From Dr. Russel and Prof. Keyes, who arrived last evening from the furnace, near Jefferson City, we (the *Post*) learn that the furnace is completed, and started up May 5th. It was erected, we believe, by Mr. Rompff, is built upon the Frieburg principle, has a capacity of five tons per diem, and works admirably. It will reduce ore from the McGregor lode. So far the smelter only has been used, and the slag is all that will please a smelter's eye—while the rich lead has a decidedly silvery appearance. It is intended to cupel this week, and Jeffersonites are on the *qui vive*, anticipating what they have every promise of realizing—good results. While coming in, about three miles from Helena, the animal on which Dr. Russel was riding, fell, threw him, broke his right fore arm and dislocated his wrist. The limb was set and dressed by Drs. Glick and Maupin, and was, we are glad to know, doing well last night. The Doctor and Professor returned to Jefferson this morning..... Mr. Postlewaite has left his mill in Slade's district and returned to Summit City where he will start up on Monday next, running on rock from the Keystone lode.

[From an Occasional Correspondent.]

North Carolina.

The Gold Mines.

CABARRUS COUNTY, N. C., June 1, 1868.

EDITOR AMERICAN JOURNAL OF MINING:

The Alleghany gold belt is three-fold in this region. Its western side consists of sulphuretted veins of talcose slate, its middle is free gold in quartz, and the eastern edge mostly placers. These divisions are not distinct, and generally overlap each other to some extent. Just here the veins are rich in sulphurets of iron and copper. Gold Hill lies to the northward, and represents this range as to both its slate and quartz. In this county, the Bangle or Cullen, the Phœnix, Barrier, North Barrier, and many other mines, furnish pyritous quartz, but no slate in veins. Three miles east, near the line of Stanley county, the gold is free in some, in some combined with sulphurets, and so blended in others as to be hard to classify. The old Reed mine lies in that range, and represents its mixed character to some extent. Eastward from that, sulphurets are seldom found; it is pure gold in pure quartz. In both divisions the country rock is slate, and the general course of the fissures N N.E. It should be observed here that there is a granite formation beginning about two miles westward from this point, and that rich quartz veins are found in it. So far, however, as my acquaintance extends, they are small, and not too reliable. They seem to be without casing or any of the "vein matter" common to fissure lodes, the quartz being firmly welded to hard granite. Miners of experience will scarcely differ as to the probability that they will justify deep mining. Between the slate and granite—along their line of junction—are undoubtedly some of our best veins, although they are sometimes disturbed by "mud slides" and other faults incident to very soft ground. Cutting all these divisions at varying angles, is a system known here as "cross veins," from their general east and west course. These are often large, and not always barren, although generally deemed too spotted for safe working. But there are exceptions.

As in California, the pyritical veins have the best walls, and their gold is most generally and evenly distributed through the mass. They are also less liable to breaks, and average larger. But the free ores work more kindly, yield coarser gold, and have richer, as well as poorer, sections. Here pockets abound, nuggets are often met with, and earths are richer. Their surface ores are better in proportion, as they have not been robbed by oxidation to a like extent with those whose gold is combined with the baser metals. If we credit the common theory that all placers are enriched by the decomposition of veins, it would seem to follow that they would be richest along the sulphurets, And they perhaps would be if this gold from pyritical veins were not so impalpable in its fineness, and so generally diffused. But this is no place for the placer question.

There is no doubt that the sulphuret veins are true fissure veins, and the others may be, for their parallel course and blending where they join would seem to indicate a common origin, whatever that may be. But I doubt the free veins being so generally found "in place" when the primary rock is reached. But few mines in this locality have ever been opened to any considerable depth, and these few generally are sulphurets. Gold Hill has a shaft down 750 feet; just here are two, 175 and 183 feet respectively, and several more might be cited toward Charlotte of 100 feet in depth or over, but all in this range. There are scores and hundreds of 30 feet shafts and miles of drift connecting them, where not one foot of the vein is left standing above the water line, although untouched below. As a rule here, mining ceases where pumping begins. The main reason of this is the added cost and labor, although something is due to the stronger grip with which undecomposed sulphurets cling to their precious metal. And all this in spite of the fact that the ore is doubly rich below the waste and wear of surface agencies. This style of mining, together with the cheap and crude appliances used in reducing the ore, render large success impossible of course. But we are a primitive people, and too much must not be expected of us. When our fields refuse to yield crops without manure, we "turn them out," and clear up strips of virgin forest to take their place and repeat their history. When the weather is dry our streams are easily forded; when wet, we stay on our own side. The roof that could not be patched in the rain and didn't need it in fair weather, is never heeded by us; we have too many such. Viewing these in a light of a commentary on our mining, there will probably be suggested possibilities of improvement, should we ever employ the capital, skill or energy in use elsewhere. H.

Idaho.

The Silver City *Avalanche*, May 16, has an account of a visit to several of the prominent mines in its vicinity. The Woodstock mine, it says, has a shaft down twenty-five feet below the level of the tunnel, and shows a width of twenty inches of solid quartz, with smooth and uniform castings. The ore now being taken out is very rich in silver, and in much of it, also, gold is plainly discernible to the naked eye. The ore is assorted on the dump and divided into two classes, one of which, it is thought, will yield $800 per ton. The Woodstock company are using the recently invented blasting material, called "Giant Powder," and speak very highly of its merits. The Poorman company are sinking a splendid triple shaft a short distance north of the present hoisting shaft. It is, without exception, the best timbered shaft we have seen in camp. It is now completed to a depth of forty-five feet, and will be used for the main hoisting shaft upon the arrival of the steam engine, now on the way from San Francisco. The Golden Chariot company continue to take out glittering ore by the car load. Much of it is so rich that it is boxed up to prevent visitors from carrying it away. Five large ox-teams were engaged in transporting it to the Sinker mill. A large space is being graded away, where the steam hoisting works, which are expected to arrive soon, will be placed. Some parties have obtained the privilege of washing the refuse dirt at the Golden Chariot dump and are making good wages thereat. No hauling has taken place from the Ida Elmore mine for several weeks, but several hundred tons of ore are now ready for hauling, which will commence as soon as the few rods of very deep snow, near the mine, can be shoveled out. The ore is of almost fabulous richness—much the same as the Golden Chariot. Timbers have been prepared, and the mine is being put in such a shape that unlimited quantities of ore can be extracted as soon as it can be hauled away. Preparations are being made to work the Minnesota, which is located a few yards west of the Golden Chariot. Considerable work has already been done on the mine. The south shaft is now down ninety feet and is substantially timbered. The north shaft is sixty feet deep. A tunnel is also in quite a distance on the ledge south of the south shaft. It is large and substantially timbered, and can be run so as to connect both shafts, which will give good facilities for working. On the dump we noticed some assorted ore, in which black sulphurets of silver and free gold were plainly visible. Messrs. Trask & Son expect to have their arastra ready for operation about June 1st. The workers of the Whiskey mine are preparing for the erection of a whim. The ledge has been traced north from the main shaft several hundred feet, and the Whiskey Gulch, Calaveras, and other rich mines are supposed to be on the same range. The Oro Fino company are at work, although they cannot operate advantageously till their hoisting works arrive. In one place, recently struck, the ledge is from seven to eight feet wide, and good pay rock at that. Work has been resumed on the Calaveras. Parties are at work sinking on the Soteoma. It is said to prospect well. The Omega mine shaft is fifty feet deep and timbered, in a splendid manner. It is about six feet between the casings at the bottom of the shaft, but the ledge is considerably broken up and divided into seams. The quartz becomes harder and the seams are much wider as the depth of working is increased. From present appearances it is thought that at the depth of one hundred feet the entire width between the casings will be a solid vein of quartz. The ore contains silver mixed with gold. Good wages can be made by selecting the ore and working in a hand morter. Two pounds thus worked recently yielded eight dollars. The want of timber during the winter has considerably retarded work in the mine. The melting of the snow has caused a large quantity of water in the shaft, but it will be drawn out and work resumed in a few days.

Alaska.

A correspondent of the San Faancisco *Times* writes from Sitka, April 6. "The steamer 'Otter,' which sailed on her return trip on the 4th inst., took a party of seven miners from this place, well armed, fitted out and supplied for the entire season, bound for the gold region on the Trachine. They start off confidently, and with glowing expectations. Another party is expected soon to follow, and we hear of a schooner load about starting on the same adventurous experiment from Victoria. A few sanguine individuals are preparing to continue prosecting up the Indian river, and in the ravines in the immediate vicinity."

Utah.

GALENA, Ill., May 25, 1868.

EDITOR OF THE AMERICAN JOURNAL OF MINING:

How could I find out more particulars about the North Star ledge, situated in Little Cottonwood canyon, in the Wasatch range of mountains, Utah, mentioned in your JOURNAL OF MINING, of March 7? I would like to buy an interest in the ledge, or the whole of it, if it as good as represented, and cheap.

Please answer, and oblige FRANK RUPRECHT.

Arizona.

The news from Prescott to the 25th April reads thus, condensed from the *Miner*: The Chase lode is looking well. The mill will be ready to run by May 1st. A tunnel has been started. Shaft 102 feet in depth.....William Smith is going to build a twenty-stamp mill at Wickenburg..... J. A. Young has sold his claim on the Vulture ledge, at Wickenburg, in this county, for $10,000.....A rich silver ledge had been discovered about 20 miles east of Wickenburg, also a gold ledge.

COAL AND IRON.

Pennsylvania.

The Luzerne *Union* says: Men are on the strike in some of our collieries, though most of them have gone to work at the rates offered by the Scranton companies—$1.45 for outside labor. There is some prospect of the Warrior River Mining company stopping work for a short time. It is proposed to sink a slope in the Baltimore veins on this property during the summer, and drive a tunnel back to cut all the veins to the red ash. It would open up a very large amount of coal.....J. H. Swoyer, Esq., has commenced working the new shaft at his Enterprise colliery. .....Messrs. Parrish, Thomas & Ely are now shipping about 150 tons per day from their Pine Ridge shaft—the damage done by the late explosion having been repaired.....The Shamokin *Herald*, May 28, says: The Big Mountain colliery, under the superintendence of Mr. Fulton, has increased its shipments considerably. They are making new openings on the Buck Ridge side, which, if they turn out well, will largely augment their tonnage. They are putting up a trestlework 450 feet long, and 63 feet high to haul this coal to the breaker.....The Bethlehem *Times*, May 28, says: Samuel Lewis, Esq., of the Allentown Iron Works, last week bought out the entire fixtures and machinery of a large rolling mill in Philadelphia, which will be transferred to Allentown at once and form the basis of a new mill he purposes to put up. The machinery purchased is of the most improved kind, and was sold only because the vacation of the site of the mill was rendered necessary. It embraces among other things three engines of 130, 80, and 60 horse power respectively, and everything complete. The new mill will be erected adjacent to his present merchant mill, and will require, when complete, 250 hands for operating it. It is to run on light railroad iron, also burrs, nuts, &c.....The Reading *Dispatch* says: The Henry Clay furnaces will soon be in full operation. They will be the most complete institutions of the kind—with all modern improvements—when completed, to be found in Pennsylvania.....The Lancaster *Intelligencer* says: A two hundred ton barge loaded with magnetic iron ore, for the Marietta furnace, this county, has arrived at Havre de Grace, at the mouth of the Susquehanna river. This ore is from New York, and is very pure; when mixed with some of our own ores it can be very successfully used in the manufacture of steel rails, with which railways are now being laid. It is very hard, and therefore wears slowly, is not liable to mash, and is of great strength. A portion of the Philadelphia, Wilmington and Baltimore Railway is now being relaid with this metal. This ore will reach Marietta via the Tidewater canal, which is now open for navigation.

Illinois.

STRIKE OF THE COAL MINERS.

We are indebted to the St. Louis *Dispatch*, May 30, for the following account:—The coal miners of that portion of St. Clair county, Illinois, embracing the Ohio & Mississippi railroad, and the Belleville & East St. Louis railroad, have for the past three weeks been on what is commonly called a "strike." We warned our readers, the very day this strike commenced, that the price of coal had reached its lowest figure, and that the miners had given notice that from and after the first day of May they would require four cents a bushel for digging, and to be paid for their work according to the just weight of the coal dug and sent to market. This statement surprised many large consumers in our city, who up to that time were contracting for their supplies with the understanding that five cents, and not *four*, was the price paid to the workmen for mining the coal. The five cents a bushel story, however, was a deception all around. By that story the complaints of the consumer about the contract price for coal, had been all effectually bushed; and he was often constrained to believe that he had the best of the bargain with the dealer, if five cents a bushel had to be deducted from the contract price, for the mere item of wages alone. And if that had been true, perhaps he would. But it was notoriously untrue. As a matter of fact, the miners were neither paid five cents, nor four cents, nor yet three cents a bushel, for their work by the system of over-weight, or over-measure, rather; for, latterly, scales and weights had been pretty generally ignored, under which the operative miners were compelled to work. They were generally paid by the box before the strike, and not by the bushel—a box containing twelve bushels being rated at thirty cents, and, we are credibly informed, that the wages actually earned by the miners when at work, would not, in any instance, exceed two and a half cents a bushel, while in many instances it fell below that figure. This rate of wages is as low as that paid before the war begun, when the price of every article of consumption was

based on specie funds, and not on a depreciated currency. At this rate of wages, with little more than half work, the miners have been gradually growing from bad to worse until nothing in the shape of hope was left, and starvation was actually staring many of them in the face. That was their condition when the present strike began. They now demand that their work be honestly weighed and as honestly paid for at the rate of four cents a bushel. And for the purpose of preventing all cavil or mistake, they are willing to be paid by the Weigh Master's report of the weight of each car of coal when it reaches East St. Louis, which report, we understand, the miners have made arrangements to obtain from the Weigh Master of both the Belleville and the Ohio & Mississippi roads. The reasonableness of these demands cannot very well be questioned for a moment, and we hope that neither obstinacy nor a desire for mere victory, on either side, will longer be permitted to stand in the way of a reasonable adjustment of this already too long protracted difficulty. The market wants coal, and the miners want work at living wages. For the benefit of the public, let both these wants be at once supplied.

LARGE MINERS' MEETING.

The largest meeting of operative coal miners ever held in St. Clair, Illinois, took place yesterday at the grove near the eighth mile stone, on the Bellville & St. Louis turnpike. At this place more than five hundred miners, convened from all parts of the county, met in council. The deception heretofore practiced upon consumers of coal, by false representation as to the price paid for mining that coal, and the imposition practiced upon the miners by the over-weight and over-measure system, were fully ventilated and denounced. It was stated that for two months before the strike began, in response to their complaints, they were frequently urged by some of their bosses to strike for railroad weight and higher wages; that they had put up with misrepresentation, tyranny and deceit as long as these evils could be borne, and that their present strike was a passive but earnest, living and determined protest against the injustice to which they had been subjected by men who treated them with less consideration than did many of the slave drivers of the South their negroes, before the war. They were sorry to say that some of the firms that had acceded to the demands of the diggers had not kept good faith with them, for they had been furnishing coal to others who were yet resisting these demands. If that had not been done, it was believed they would have all been at work some days ago. In this case it seemed necessary to apply a somewhat extreme and summary remedy, and believing the end would justify the means, it should be applied. All hands had determined to stop work together, until the justice they sought was conceded to all alike; that as far as they could prevent it, no more deceit should be practiced, either upon the coal-consuming public or the miners. It was also stated, on the authority of a large consumer, that many were now unable to get coal in St. Louis, even at the rate of thirty cents a bushel. The speakers all advocated unity, prudence and forbearance. Resolutions of thanks were given to the public press, for the fair and friendly notices that had been given by several papers of the miners' movement. And the meeting that was commenced at eleven o'clock in the forenoon adjourned at half-past three o'clock P.M., all seemingly well satisfied with what had been done, and firmly determined to fight the battle out on that line, if it took all summer.

MARKET REVIEW.

FRIDAY EVENING, June 5, 1868.

Gold and Silver Stocks.—Prices quoted below vary but little from those published last week. The market is moderately active, with a tendency towards more firmness in some Nevada and Colorado stocks. Prices are thus quoted at the board:

	Bid.	Asked.		Bid.	Asked.
Alameda Silver	60	— 90	La Crosse Gold	— 45	47
American Flag	— —	— 60	Liberty Gold	— —	— 5
Atlantic and Pacific	— —	— 80	Manhattan Silver	— —	150 00
Bates & Baxter Gold	— —	— 50	Midas Silver	— —	— 45
Benton Gold	— 20	— 30	Montana Gold	— 39	— 41
Black Hawk G	5 75	7 00	New York	— 60	68
Bobtail Gold	— —	1 50	New York & Eld'o	— —	1 75
Bullion Consolidated	— —	1 00	Nye Gold	— —	— 3
Columbian G. & S.	— —	— —	Ovyhee Mining	— —	30 00
Combination Silver	35 00	45 00	Ophir Gold	— —	— —
Consolidated Gregory	4 05	4 20	People's G. & S. of Cal	— 5	— 20
Corydon Gold	— 30	— —	Quartz Hill	1 10	1 15
Edgehill Mining	4 70	4 80	Reynolds Gold	— —	— 4
Gold Hill	— —	1 00	Rocky Mountain Gold	— 15	— 22
Gunnell Gold	— 60	— 90	Smith& Parmelee Gold	2 90	3 00
Gunnell Union	— —	— 40	Sensenderfer	— —	12 00
H'n G & S. bs	— —	— 90	Symonds Fork Gold	— —	1 00
Harmon G. & S. bs	— —	3 00	Texas Gold	— —	— 15
Holman	— 4	— 10	Twin Riv Sil	— —	70 00
Hope Gold	— —	— 20	Burroughs	— 10	— 12
Kipp & Buell Gold	— —	— 15	Empire	— —	— —
Keystone Silver	— —	— —	Vanderburg G	— —	— 75

Copper Stocks.—Sales of Davidson are reported at 60c. Tudor is on the market at $2 10, and Gardiner Hill is held at $1. Prices are quoted:

Caledonia C	— —	10 00	Hilton	— 50	1 00
Canada	— —	— 50	Knowlton	— —	2 00
Charter Oak	— —	1 00	Minnesota	— —	5 00
Central	22 00	— —	Ogima	4 50	— —
Davidson	— 57	— 75	Rockland	— —	3 50
Gardiner Hill	— —	1 00	Tudor Lead	2 10	2 20

Petroleum Stocks are dull and lower, being thus quoted:

	Bid.	Ask'd.		Bid.	Askd'.
Bennehoff Run	75	1 25	N. Y. and Alleghany	1 80	2 00
Brevoort	30	45	Pit Hole Creek	30	75
Buchanan Farm	43	47	Rathbone Oil Tract Co	....	....
Central	30	60	Rynd Farm	10	18
Canton Oil	80	1 50	Sherman & B	....	....
Columbia	....	....	United Pet. Farms	5	10
Manhattan	....	10	United States	2 00	2 05
National	....	2 00	Union	5 00	....

Miscellaneous Stocks.—Quicksilver Mining is quoted at 27¼; Adams' Express, 57 37@57 75; American, 56@57; United States, 55¼; Wells, Fargo & Co., 25 37; Merchants' Union, 28 50@28 87; National, 29@29¼; Walkill Lead, 20@22; Rutland Marble, 15½@16¼.

Government Stocks are firm, with a good demand for investment. Prices are quoted:

U. S. 6s, 1881, coupon....116½@ —
U. S. 5-20s, 1862, coupon....112¼@112⅝
U. S. 5-20s, 1864, coupon....110¼@110⅝
U. S. 5-20s, 1865, coupon....110¼@110⅝
U. S. 5-20s, July, 1865, coupon....113 @113½
U. S. 5-20s, July, 1867, coupon....113½@113¾
U. S. 10-40s, coupon....106 @106¼
U. S. 7-30s, June, large....109⅜@109¾
U. S. 7-30s, July, large....109⅜@109⅞

Foreign Exchange.—In foreign Exchange, the transactions are largely between bankers, the demand from importers being quite limited. Rates are kept at figures admitting of the covering of the bills with shipments of coin. We quote:

London, (prime bankers')60 days'....110½@110¾
London, (prime bankers') sight....110⅝@110⅞
London, prime commercial....109⅛@110
Paris, (bankers') long....5.13⅛@5.12½
Paris, (bankers') short....5.11¼@5.10
Antwerp....5.13⅛@ —
Swiss....5.13⅛@ —
Hamburg (bankers')....36⅛@36¼
Amsterdam (bankers')....41⅛@41½
Frankfort (bankers')....41⅛@41½
Bremen (bankers')....79⅛@80
Berlin (bankers')....71¼@72

Gold—Is dull but steady, the prices ranging from 139⅛@140¼. Cash gold is scarce, loans having ranged from flat to 1 per cent. for "borrowing."

There is a plethora of money. The banks generally decline no applications at 4 per cent., with miscellaneous collaterals, and are lending at 3 per cent. on Governments. The country balances increase, and the commercial demand diminishes. Prime business paper is in demand from the banks at 5@6 per cent. and scarce.

American silver is in limited request at 6½@7 cents below the price of gold. Mexican dollars are worth 103½@103¾ in gold.

Statement of business at the United States Assay Office at New York, for the month ending May 30th, 1868:

Deposits of gold:

Foreign coins	$13,000 00	
Foreign bullion	6,000 00	
United States bullion	355,000 00	
		$374,000 00
Deposits of silver, including purchases:		
Foreign coins	$26,000 00	
Foreign bullion	16,000 00	
United States bullion (contained in gold)	4,500 00	
Old coins	1,000 00	
Lake Superior	1,500 00	
Nevada	15,000 00	
Colorado	1,000 00	
		65,000 00
Total deposits, payable in bars	$374,000 00	
" " " coins	65,000 00	
		439,000 00
Gold bars stamped		450,281 16
Transmitted to U. S. Mint, Philadelphia, for coinage		120,783 24

The following will show the exports of specie from the port of New York for the week ending May 30, 1868:

May 26—Steamer Saxonia, Hamburg—	
American gold	$419,900
Silver coin	1,000
May 26—Steamer Manhattan, Liverpool—	
Spanish doubloons	3,000
May 27 Steamer Russia, Liverpool—	
American gold	1,010,000
May 28—Steamer Columbia, Havana—	
American silver	11,200
May 28—Steamer Hansa, Bremen—	
American gold	250,000
Prussian silver	5,040
Foreign silver	1,200
May 28—Steamer Enchantress, Para—	
American coin	1,538
May 28—Bark Cienfuegos, Cienfuegos—	
Doubloons	1,000
May 30—Steamer City of Paris, Liverpool—	
American gold	960,000
May 30—Steamer Europa, Havre—	
Gold bars	503,645
American gold	1,025,000
Foreign silver	18,200
Mexican dollars	1,000
Total for the week	$4,211,723
Previously reported	32,947,989
Total since January 1, 1868	$37,159,712
Same time in 1867	17,255,788
Same time in 1866	33,256,179
Same time in 1865	13,436,982
Same time in 1864	23,707,158

The Director of the Philadelphia Mint furnishes the following statement of deposits and coinage at the United States Mint during the month of May, 1868:

DEPOSITS.

	Value.
Gold deposits	$152,196 97
Silver deposits and purchases	32,016 29
Total deposits	$35,213 19

GOLD COINAGE.

	Pieces.	Value.
Double eagles	6,250	$105,000 00
Fine bars	9	7,694 24
Total	6,259	$132,694 24

SILVER COINAGE.

Dimes	230,000	$23,000 00
Half dimes	82,000	4,100 00
Fine bars	6	909 10
Total	312,006	$28,009 10

NICKEL AND COPPER.

One cent pieces	1,045,000	$10,450 00
Two cent pieces	273,750	5,575 00
Three cent pieces	302,000	9,060 00
Five cent pieces	4,000,000	200,000 00
Total	5,620,750	$224,985 00

The *Journal of Commerce* says: The shipments of specie in May were nearly sixteen millions, showing the largest monthly total since May, 1866, when the aggregate was nearly twenty-three millions, and with this exception without precedent in the history of the trade. This leaves the outgoes of coin and bullion from this port since January 1st nearly eighteen millions in excess of the receipts from all sources, as will appear from the following tabular summary:

GOLD MOVEMENT AT NEW YORK IN 1868.

Received from foreign ports:		
In January	$136,574	
Do. February	415,875	
Do. March	1,299,776	
Do. April	871,079	
Do. May	477,485	
		$3,200,789
Received from California:		
In January	$1,949,880	
Do. February	4,132,276	
Do. March	3,196,196	
Do. April	3,457,440	
Do. May	3,693,607	
		16,429,399
Total supply		$19,630,188
Exported to foreign ports:		
In January	$7,349,825	
Do. February	4,203 825	
Do. March	3,694,912	
Do. April	7,095,179	
Do. May	15,936,231	
		37,279,972
Loss since January 1st		$17,649,784

Copper.—There is some pressure to sell copper, and Detroit and Lake Superior has been sold at 23¼c., and small parcels of Baltimore have gone off at 23c.

Lead—Quiet at 6½c. gold, and 9@9¼c. currency.

Spelter—Quiet at 5¾@6¼c. gold, best brands, with a liberal supply and a small demand at present. Store lots 9@9¼c.

Tin.—Straits firm at 24¼@24½c. gold. Banca 27@28c. gold. Store lots Straits 34¼@35c.

Tin Plates are in moderate der and at $8 25@8 50 gold for I C charcoal.

Nickel—$2@2 80 per lb. currency.

Antimony—16@17c. per lb.

Bismuth—$5 25@6 per lb.

Quicksilver—80@90c. currency.

Petroleum—Is quiet at 13¼@13½c. for crude, and 29½c. for refined, in bond.

Receipts for the week ending June 2	pkgs		12,767
Exports " " " "	gals		468,546
Do. from Jan. 1st	do.		17,104,398
Do. same time last year	do.		11,756,415

STOCK IN YARD JUNE 1.

	1868.	1867.
Crude bbls.	*21,763	14,830
Refined	*17,257	44,428
Naptha	1,600	30
Residuum	....	745
Total bbls	40,920	60 033
Stock May	57,457	44,122

*Including 1,000 bbls. crude and 3,000 do. refined on Shipboard.

THE IRON TRADE.

NEW YORK, Friday evening, June 5, 1868.

The demand for Scotch pig iron continues to be very limited, but prices are firm, with a small stock. For American the inquiry is also meagre, and the operations unimportant. We learn of sales of Allentown, No. 1, at $38; and of 1,300 tons of white and mottled iron at $31. The market in rails is quiet, with a fair demand. We learn of 400 tons of old sold at $47, and of 10,000 tons of new American rails, bought by the Union Pacific Railroad company. In English rails we learn of sales of 700 tons, new, at $51, gold. In Russia sheet the sale of 100 packs, at 17c., currency, is reported. Bar from store is less active at old rates.

The three large iron works at Troy, N. Y., have suspended operations on account of a strike with part of the workmen. As the proprietors can better afford to stand idle than the workmen, it is not probable that they will accede to the demands made of them.

The workmen at the Washburn Iron Co's works, at Worcester, Mass., were out on a strike about three weeks ago, and we have not yet learned that any conciliatory arrangements have been made.

PHILADELPHIA, June 3, 1868.

Pig iron continues dull and prices are weak and unsettled. Sales of Anthracite at $36@37 for No. 1; $35 for No. 2; and $32@33 per ton for hard. Manufactured iron is firmly held at full rates.

BOSTON, June 3, 1868.

There is a quiet feeling for pig iron with a steady demand. Sales of Scotch Gartsherrie and other brands No. 1 at $42@44 per ton. American pig has been selling at $40@45 per ton, and charcoal at $45@60. Bar iron is selling in small lots at previous prices. Russia sheet iron is firm, but has been quiet. Prices range from 13@14c. per lb. gold, with sales of 300 packs heavy at about 13c. per lb. gold.

Imports of pig iron from January 1 to May 29:

	1868.	1867.
From Great Britain, tons	2,423	14,020
Coastwise ports, tons	4,030	3,554

Lehigh Valley Iron Trade.

The following table shows the amount of Pig Iron transported over the Lehigh Valley Railroad for the week ending May 30, 1868, and for the season to that date.

From	Tons.	Total
Carbon Iron Co	140	4,295
Lehigh Valley Iron Co	275	5,075
Thomas Iron Co	560	12,000
Lehigh Crane Iron Co	570	11,100
Allentown Iron Co	1,080	6,545
Robert Iron Co	220	4,385
Glendon Iron Co	360	10,150
Other shippers	765	7,272
Total	3,970	60,822

Lake Superior Iron Trade.

The following table shows the amount of ore shipped from Escanaba up to and including May 14.

Where from	Since May 7.	Previously reported.	Total
Jackson Mines	2,672	5,917	8,619
Cleveland Mines	1,811	5,797	7,608
New York Mines	2,003	478	2,481
Iron Mountain	....	794	794
Total	6,486	12,986	19,502

Shipments.

The following is a statement of the shipments of iron ore from the port of Escanaba, from May 8, to May 14:

May 9—Schooner W. S. Lyons, 461 tons ore, S. L. Mather, Cleveland.
" 12— " Exchange, 482 tons ore, J. I. Co., Cleveland.
" 13— " J. W. Nichols, 542 tons ore, S. L. Mather, Cleveland.
" 13—Bark General Franz Sigel, 584 tons ore, Andrews, Hitchcock & Co., Cleveland.
May 14—Bark Henry P. Baldwin, 804 tons ore, C. I Co., Cleveland
" Schooner Negaunee, 997 tons ore, J. I. Co., Cleveland.
" Schooner White Cloud, 400 tons ore, J. I. Co., Erie, Pa.
" Escanaba, 793 tons ore, J. I. Co., Gleveland.
" Bark Z. Chandler, 949 tons ore, Andrews, Hitchcock & Co., Cleveland.
" Schooner Oak Leaf, 506 tons ore, Andrews, Hitchcock & Co., Clevel'd.

Quarterly Statement of Exports of Iron and Steel from Great Britain to the United States.

	1866.	1866.
Iron, pig and puddled	32,651	6,571
" bar, angle, bolt and rod	13,560	7,575
" railroad, of all sorts	48,402	63,024
" castings	143	68
" hoops, sheet and boiler plates	5 031	2 867
" other wrought	2 544	1,073
Total of iron	102,331	81,178
Steel, unwrought	6,563	3,027

Market Prices.

NEW YORK, June 5, 1868.

DUTY.—Bars, 1 to 1¼c. per lb.; railroad, 60c. per 100 lbs.; boiler and plate, 1¼c. per lb.; sheet, band, hoop and scroll, 1¼ to 1¾c. per lb.; pig, $9 per ton; polished sheet, 3c. per lb. Payable in gold.

			STORE PRICES.		
Anthracite, No. 1, best	$38 00@39 00		Bar, Swedes, ord'y sizes	— —	150 00
" 2x, firy	36 00	37 00	Bar, Eng. and Am., ri'd	95 00	100 00
" Grey Forge	34 00	35 00	Bar, Eng. & Am., com.	85 00	90 00
Scotch Pig, No. 1	39 00	42 00	Sceoll	125 00	170 00
Charcoal, cash	45 00	65 00	Ovals and half round	120 00@	150 00
Old Wrought sc'p, fm yd.	47 50	— —	Band	1 5 00	— —
" " " fm. val.	45 00	— —	Horse Shoe	125 00	— —
English rails, gold	52 50	— —	Rods, ⅝@3-16 inch	100 00	160 00
American " at works.	75 00	— —	Hoop	133 00	185 00
American Bar Iron.			Nail Rod, per lb	9	10
Common, per ton	80 00	85 00	Sheet, Rus., Med. Nos.	17	18
Refined, "	85 00	90 00	Sheet, s'gle, D. & T. com	5	7
Old Railroad Iron	47 00@		Rails, Eng., gold, ton	52 00	52 50
			Rails, American	78 00	80 00

STEEL.

English, cast (2d and 1st quality) per lb	18 @23
English Spring (2d and 1st quality)	10 @12½
English Blister (2d and 1st quality)	11½ 20

PITTSBURGH, May 30, 1868.

Pig Iron and Blooms.—The *Commercial* says:—The business of the week in crude iron has been light. Prices remain substantially as at date of our last report. We are quoted the following sales:

BITUMINOUS COAL SMELTED FROM LAKE SUPERIOR ORE.

100 tons Medium Gray Forge			$35 00—cash.
50 tons	"	"	36 50—4 mos.
75 tons	"	"	36 00—4 mos
300 tons	"	" to arrive	36 00—4 mos
150 tons	"	"	37 00—5 mos.
100 tons Open Gray Forge			37 00—5 mos.
240 tons Close	"	to arrive	36 00—6 mos.
180 tons Open	"	"	37 00—5 mos.
160 tons Open	"	" from yard	37 50—4 mos.
120 tons Open	"	" "	38 00—6 mos.
120 tons Medium from city wharf			37 00—4 mos.

ANTHRACITE.

50 tons Grey Forge			$37 00—6 mos.
40 tons	"		35 40—4 mos.
10 tons	"		36 00—cash.
40 tons	"		35 50—4 mos.
100 tons Neutral Forge			37 00—6 mos.

CHARCOAL.

200 tons Fancy Forge Iron			$51 00—6 mos.
50 tons Hanging Rock, No. 2 Foundry			40 00—60 dys
20	"	No. 2 Foundry	40 00—cash.
50	"	No. 1 Foundry	44 00—4 mos.

IRONTON, O., May 28, 1868.

The *Register* says: A further decline in metal is anticipated. Where rates will eventually rest, is a matter of much doubt. The demand is very low, but the production is great. Indeed, it is probable, that more metal will be turned out in this county during the present year than ever before. There must spring up a very increased and active demand, in order that prices will be maintained at anything like the present figures. Only little business doing.

Our quotations this week, are:

Mill, hot blast	$36 00@$37 00
Foundry, hot blast	38 00@ 39 00
Cold blast	55 00@ 60 00
Bituminous forge (Belfont)	37 00

Mill iron is weak at 3¾@4¼. The demand very light. The Lawrence Iron Mill will commence operations again next week.

To-day, Monitor Furnace goes into blast. It is a large and well-constructed furnace, and will turn out about 20 tons of metal per day.

THE COAL TRADE.

NEW YORK, June 5, 1868.

There is no improvement in the trade. More difficulty is experienced in placing lots. Prices, however, remain firm, and dealers will notice in our quotations a general advance in prices. The amount of business doing does not, in our opinion, warrant the advance; dealers, however, claim a short supply on hand. We hear of odd lots of coal thrown on the market, selling as low as $4 25 to $4 75 for high grade of names, delivered in cart. Dealers are somewhat exercised about the existing quarrel in Philadelphia over the new Bill of Lading system; all are confident that the Vessel Owner's Association will not succeed in their undertaking, notwithstanding it holds within it a spirit of justice to the Captains, who seem to be a much aggrieved set of people. The following is the objectionable clause:

"Dangers of the sea and fire excepted, with primage and average accustomed, and twenty-four hours after the arrival at the above named port, (and notice thereof to the consignees named,) there shall be allowed for receiving said cargo, at the rate of one day, (Sundays excepted,) for every hundred tons thereof; after which the cargo, consignee, or assignee shall pay demurrage, at the rate of eight cents per ton a day upon the full amount of the cargo, as per this bill of lading, for each and every day's detention beyond the days above specified, until the cargo is fully discharged, which demurrage shall constitute a lien upon said cargo." One hundred tons a day is pretty heavy discharging. We should think seventy-five tons a day were enough; then, again, we think to pay demurrage on that portion of the cargo not discharged, should be all that was necessary, and that six cents per ton demurrage should be sufficient.

Vessels are scarce and freights are a little firm. Messrs. Bird, Perkins & Job, of No. 104 Wall street, this city, are agents for the sale of an excellent quality of Provincial gas coal, from a new mine at Port Caledonia (Big Glace bay,) C. B., where a safe harbor has been opened, having thirteen feet water at the loading ground. They are now prepared to commence shipments.

BOSTON, June 3, 1868.

The market is dull for English cannel, and sales have been confined to small lots at $20 per ton. In Sydney there have been sales at $8@8 25, and Pictou at $7 50@7 75 per ton. Cumberland is quiet at $8@8 25 here; $4 75 delivered at Baltimore, and $4 35 delivered at Georgetown. Penn and Westmoreland has been selling at $7 20 per ton delivered in Philadelphia. Anthracite has been selling at $6@6 50 by the cargoe, and $7@7 50 per ton in retail lots.

Our Boston correspondent writes under date of June 3d: The captains and owners of vessels at Philadelphia seem determined to carry out the plan of the new bill of lading, but the trade are not willing to submit, and very few if any are ordering shipments upon it. There have been several shipments made upon the old bill of lading, and none yet as we hear upon the new. Freights from Philadelphia are irregular and may be quoted from $2 50@2 75 to Boston. Freights from Georgetown, $3; from New York, $1 75@2 00. Prices of coal remain unchanged, say Lorberry $4 50; Locust Mountain white ash, steamboat, $2 35; broken, $3 45; egg, $3 95; stove, $4 10.

PHILADELPHIA, June 3, 1868.

The market continues dull without any change in prices, which will be found reported elsewhere.

The amount of coal exported from the port of New York, for the week ending June 2, was:

Exports for the week	tons.	612
do. from January 1st	do.	20,138
do. same time last year	do.	28,720
Decrease		8,582

The following table exhibits the quantity of Coal passed over the following routes of transportation for the week ending May 30, 1868:

	1867.		1868.		INC. OR DEC	
	WEEK.	YEAR.	WEEK.	YEAR.	WEEK.	YEAR.
Phil. & Reading R. R.	88,467	1,224,292	74,838	1,289,936	d 13,629	i 65,644
Schuylkill Canal	31,484	262,343	31,395	283,604	i 911	i 21,261
Lehigh Valley R. R.	46,396	757,559	54,648	1,019,825	i 8,251	i 262,266
Lehigh Canal	25,582	161,706	34,699	200,188	i 9,117	i 38,482
Scranton North	9,064	153,644	13,457	172,872	i 4,393	i 19,228
" South	27,077	521,050	21,658	446,444	d 5,419	d 74,606
Penn'a Coal Co. Rail	19,603	276,491	23,246	312,236	i 3,643	i 35,745
Penn'a Coal Canal	1,298	4,919	473	6,006	d 825	i 1,087
Del. & Hudson Canal	38,308	335,433	35,403	342,735	d 2,905	i 7,302
Shamokin	12,389	172,483	13,378	169,298	d 989	d 3,184
Trevorton	2,036	14,582	323	8,828	d 1,713	d 5,754
Short Mountain	3,244	20,054	3,115	33,845	e 129	i 13,791
Lykens Valley C. Co.	1,782	21,849	2,240	32,194	i 458	i 10,345
Broad Top	5,832	96,836	6,773	96,289	i 941	d 547
W'mstown Col'y, E.	3,274	35,388	4,320	66,523	i 1,045	i 31,135
Wyoming South	1,129	25,498	13,993	30,446	i 12,869	i 4,948
Lehigh & Susq. R.R.	5,994	199,388	25,978	247,838	i 20,984	i 48,450
Total	322,958	4,283,515	360,942	4,759,107	.....	.....
	.....	.....	322,958	4,283,515	.....	.....
Increase	.....	.....	37,984	475,592	.....	.....

Report of Coal Transported over Lehigh Valley Railroad and Canal

For the week ending May 30, 1868, compared with same time last year:

SHIPPERS.	RAILROAD. Week. Tons.	RAILROAD. Total. Tons.	CANAL. Week. Tons.	CANAL. Total. Tons.	Grand Total.
FROM MAUCH CHUNK.					
Summit Mines	....	....	950	3 928	3,928
Room Run Mines	....	....	12,487	79,488	79,488
Total	....	....	13,437	83,417	83,417
WYOMING REGION.					
Franklin Coal Co	883	1,807	....	....	1,807
Audenried	....	50	....	....	50
Lehigh & Susqueh'na	....	....	....	....	....
Germania Coal Co	57	4 942	152	912	5,854
Wilkes Barre C. & I.	....	13,044	4,290	24,669	37,693
Warrior Run	9	10,719	....	....	10,719
Parish & Thomas	764	28,941	252	2,698	31,639
New Jersey	284	8 955	376	1,571	10,526
Union Coal Co	....	2 432	....	....	2,432
Wyoming C. & T. Co.	....	3,227	....	....	3,227
East Boston Coal Co.	....	....	....	....	....
Morris & Essex Mut'l	79	1,428	....	....	1,428
Plymouth Coal Co	....	152	....	....	152
Hillman & Son	359	6,138	....	....	6,138
Bowkley, Price & Co.	....	....	....	....	....
Mineral Springs	....	....	....	....	....
Valley Coal Co.	....	....	....	....	....
Enterprise C'y, J. H. S	657	14,155	....	287	14,442
G. B. Linderman & Co	....	....	....	....	....
Washington Coal Co.	....	....	....	....	....
West Pittston	51	127	....	....	127
John Horton	....	....	....	....	375
Shawnee	166	3,470	464	2,336	5,806
Consumers Coal Co.	....	2,160	....	....	2,160
Harvey & Bro.	83	1,934	....	183	2,117
Wyoming Valley	....	2,080	....	....	2,080
Henry Colliery	....	513	....	....	513
New England	393	1,670	....	....	1,670
Del. & Hudson C. Co.	....	11	....	46	57
Other Shippers	....	14	123	898	912
Total	4,098	117,203	5,942	83,417	200,710
FROM B. M. REGION.					
N.Y. & L. [T.H. & Co	1,545	26,978	....	561	27,539
Honey Brook Coal Co.	2,188	50,295	1,658	5,461	55,756
Ger Pa. Coal Co.	1,329	20,463	191	1,417	21,880
Spring Mountain	4,181	46,222	92	372	46,594
Coleraine W.T.C. & Co	1,909	34,643	751	3,484	38,127
B. Meadow (D. W.)	116	253	....	....	253
John Connery	....	....	....	....	....
Lehigh Zinc Co	....	....	....	....	....
Spring Brook	....	....	....	....	....
Other Shippers	5	194	....	174	368
Total	11,276	179,300	2,696	11,421	190,721
HAZLETON REGION.					
Central Coal Co	....	....	....	....	....
Ashburton Coal Co	....	433	....	64	497
Mt. Pleasant [Halsey	221	8,179	97	751	8,930
Hazleton (A. P. & Co)	6,753	116,579	2,540	16,147	133,126
East Sugar Loaf	5,007	73,035	90	467	73,502
Mount Hall	....	219	....	....	219
Latimer (A. P. & Co)	1,264	18,781	315	1,014	19,795
Stout Coal Co.	1,026	15,998	827	3,481	19,479
Harleigh Coal Co.	727	24,485	568	4,250	28.735
Ebervale Coal Co.	1,793	36.511	903	6,546	43,057
Jeddo (G. B. M. & Co)	3,286	65,257	2,760	10,784	76,951
Woodside (J. C. Co.	475	7,542	750	2,936	10 478
Highland	869	29,156	958	4,528	33,684
Cross Creek (C. B.)	608	11,972	93	1 955	13 927
C'l Ridge [S.W. & Co.	2 116	44.915	1,321	8,910	53,825
Buck Mountain	670	27,733	290	3,841	31,624
Other Shippers	....	....	89	1,329	1,329
Total	24,820	481,212	11,708	67,011	548,223
U. LEHIGH REGION.					
U. Lehigh Coal Co.	841	27,828	719	3,543	31,371
Other Shippers	....	....	....	....	....
Total	841	27,828	719	3,543	31,371
MAHANOY REGION.					
Mt. Rose Coal Co.	144	1,022	....	....	1,022
Mount Etna Coal Co.	304	3,168	194	278	3,446
Mahanoy Col. [N.M.M	546	12,554	....	....	12,554
Coplay Colliery	1,342	10,693	....	....	10,693
Glendon	935	8,666	....	....	18,066
Primrose Colliery	1,151	6,485	....	....	6,485
E. S Silliman	1,892	45,190	....	....	45,190
McNeal Co	2,591	34,305	....	....	34,305
Knickerbocker	1 944	29 840	....	....	29,840
Thomas Coal Co	677	15,015	....	....	15,015
Williams & Herring	292	4,466	....	....	4,466
New Boston Coal Co.	1,382	22,706	....	....	22,706
Shamokin Coal Co.	....	....	....	....	....
Caledonia M. & M.	403	10,657	....	....	10,657
Coal f'm Cataw'sa RR	....	....	....	....	....
Other Shippers	....	15	....	88	103
Total	13,600	214,189	194	366	214.555
Grand Total	54,648	1,019,825	34 699	200,188	1,220,013
Same time last year	45,396	757,558	25,582	161,700	919,261
Increase	8,251	262,266	9,117	38,482	300,748
Decrease	....	....	....	....	....

Schuylkill Coal Trade.

BY RAILROAD AND CANAL, FOR WEEK ENDING MAY 29, 1868.

	RAILROAD	CANAL.
St. Clair	34,779	.....
Port Carbon	7,042	10,647
Potteville	1,914	1,060
Schuylkill Haven	21,605	18,667
Auburn	4,552	.....
Port Clinton	2,685	1,021
Total paying freight	72,580	.....
Coal for Company's use	2,257	.....
Total for week	74,838	31,395
Previously this year	1,215,097	252,208
Total for season	1,289,935	283,604
To same time last year	1,224,291	262,343
Increase	65,644	21,260

Schuylkill Coal Trade.

BY RAILROAD AND CANAL, FOR WEEK ENDING JUNE 5, 1868.

St. Clair	36,734	.....
Port Carbon	5,845	11,396
Pottsville	903	1.494
Schuylkill Haven	9,543	17,714
Auburn	4,387	.....
Port Clinton	2,766	811
Company's use	2,214	.....
Total for week	62,432	31.415
Previously this year	1,289,935	283,604
Total	1,352,367	315,019

Lehigh and Susquehanna Railroad, Week ending May 30.

WHERE FROM.	WEEK. Tons. Cwt.	TOTAL. Tons. Cwt.
WYOMING REGION.		
Haverill	.....	.....
Newport Coal Co	.....	.....
Valley Coal Co	.....	.....
Warrior Run Mining Co	.....	.....
Parrish & Thomas	295 01	4,763 14
New Jersey Coal Co	430 15	5,923 18
Lehigh & Susquehanna	.....	15 10
Germania Coal Co	90 05	7,949 12
Franklin "	.....	.....
Audenreid Improvement	.....	.....
Wilkesbarre Coal & Iron Co	9,336 17	62,276 07
Union Coal Co	.....	2,040 07
Mineral Spring	.....	6,929 06
H. B. Hillman & Son	.....	1,303 17
Bowkley, Price & Co	.....	228 14
Wyoming	.....	3,006 09
Henry	87 00	1,850 11
J. H. Swoyer	.....	2,577 16
Everhart Coal Co	.....	.....
Albrighton, Roberts & Co	183 03	188 03
Shawnee	605 10	3,185 12
Morris & Essex Mutual	.....	78 19
Delaware & Hudson Co	420 12	3,599 08
Pine Ridge Colliery	176 16	388 16
Consumers Coal Co	175 07	941 06
Harvey & Brothers	.....	184 11
Total Wyoming Region	11,806 06	106,567 17
UPPER LEHIGH REGION.		
Upper Lehigh	2,866 00	44.852 10
Total Upper Lehigh	2,866 00	44,652 10
HAZLETON REGION.		
A Pardee & Co	2,577 07	20,764 10
Linderman & Skeer	90 14	467 04
Sharpe, Weiss & Co	1 321 08	13 466 02
W. S. Halsey & Co	128 18	1,376 19
Harleigh Coal Co	830 04	9,048 12
G. B. Markle & Co	2,848 11	17 424 16
Ebervale Coal Co	903 18	9,626 12
Stout Coal Co	943 15	5,864 13
Buck Mountain Coal Co	440 07	5,420 15
Coxe Brothers & Co	167 11	2,749 14
Ashburton Coal Co	.....	64 06
Highland Coal Co	958 04	3,395 02
Pardee Bro. & Co	315 17	2,620 08
Jeddo Coal Co	779 11	3,552 03
Mount Hall	.....	.....
Other Shippers	.....	196 06
Total Hazleton Region	12,306 05	96,618 02
" Upper Lehigh	2,866 00	44.652 10
" Wyoming	11,806 06	106,567 17
Grand Total	26,978 11	247,838 08
Corresponding week last year	5,994 07	199,387 19
Increase	20,984 04	48,450 10
Decrease	.....	.....
Forwarded South from Mauch Chunk by rail	8,555 13	118,490 04
Delivered on line L. & S. R.R. above Mauch Chunk	609 04	26,609 07
Delivered at Coal Port for shipment by Canal	17,813 14	102,777 15
Total	26,978 11	247,877 03

Cumberland Coal Trade.

By B. & O. RAILROAD.—The shipments over the Baltimore and Ohio Railroad, for the week ending May 30, were as follows:

From Cumberland & Pa. R. R., via Cumberland:	
Consolidation Company	2.391 09
Borden do.	258 18
Allegany do.	151 00
Midland	83 00
From George's Creek via Piedmont.	
George's Creek C. & I. Company	1,508 11
Central "	3,968 18
Atlantic "	722 08
Piedmont "	572 12
American	124 00
Swanton "	330 01
Potomac "	1,164 19
Hampshire	2,709 00
Total	13,869 15
From Eckhart Railroad.	
C. C. & I Co	3,567 17
Total	17,437 12

Prices of Coal by the Cargo.

[CORRECTED WEEKLY.]

At New York, May 29, 1868.

Schuylkill R. A., choice	$6 00@$....		Schuylkill Chestnut	4 50	....
" Ordinary	5 75	....	Lehigh W.A Lump Old Co	5 00	...
" W. A., Lump	5 00	....	Lehigh Broken	4 87½	....
" Steamboat	5 00	....	" Egg	4 87½	....
" Broken	5 00	....	" Stove	5 12½	....
" Egg	5 50	....	" Chestnut	4 37½	...
" Stove	5 50	....	Shamokin	5 50	....
SPECIAL COALS.—DEALERS' QUOTATIONS.					
Diam'd Vein R. A., Sch'kill	6 00	....	Old Co.'s W. A. Lehigh	5 50	....
Locust Dale W. A., "	5 50	....	Mt Pleasant	5 00	....
Honey Brook " Lehigh	5 50	....	Broad Mountain	.....	....
Harleigh " "	5 50	....	Buck Ridge W. A., Sh'kin	5 50	....
Spring M'n " "	5 50	....	H. Heils, E. S'klin, Lorb	5 50	....
Sugar Creek " "	5 50	....	New England Red Ash	5 25	....
Ashburton " "	5 50	....	Wyoming	5 50	....

Dealers in these Coals may be found in our advertising columns.

At Philadelphia, May 29, 1868.

Lehigh Lump and Sl'mb't	5 00@....		Henry Clay, Egg & Stove	....@4 40	
" Broken and Egg	5 00	....	Locust Mount Lump and Steamboat	3 25	3 40
" Stove	5 50	....	" Broken	3 35	3 60
" Chestnut	4 25	..	" Egg	3 60	4 00
Schuylkill R. A.	4 25	4 50	" Stove	4 00	4 15
" Chestnut	2 70	2 75	Lorberry Coal	4 50	....
" W. A. Lump	3 25	....	Shamokin	....	....
" Broken	3 25	3 50	Franklin, (Lykens Valley)	5 00	....
" Egg and Stove	4 10	4 50	Broad Top	4 60	....
Schuylkill Chestnut	2 75@....				
Hill & Harris, Egg & Stove	4 30				

Scranton Coal at Elizabethport, May 29, 1868.

(Corrected weekly by D. L. & W. R. R. Co.)

Lump	$4 00@....		Egg	4 50	....
Steamer	4 25	....	Stove	5 00	....
Grate	4 25	....	Chestnut	4 25	....

Prices for Pittston Coal at Newburgh, June 6, 1868.

(Corrected weekly by Penna. Coal Co.)

Lump, per ton of 2240 lbs.	$4 15@....		Egg " " "	4 25	....
Steamer, " " "	4 15	....	Stove " " "	4 60	....
Grate " " "	4 25	....	Chestnut " " "	4 15	....

70 cents additional to New York.

Lackawanna at Rondout, May 29, 1868.

Lump	$4 25@....		Egg	$4 45@....	
Steamer	4 35@....		Stove	4 75	....
Grate	4 35@....		Chestnut	4 25	....

65 cents additional to New York.

Lehigh Coal at Elizabethport, June 5, 1868.

Lump	5 00@....		Chestnut	4 25	....
Steamboat and Broken	4 75	....	Stove	5 00	....
Egg	4 75	....			

Wilkesbarre Coal at Hoboken, June 6, 1868.

(Corrected by Wilkesbarre Coal & Iron Co.)

Lump	$4 50@....	Egg	4 50@....
Steamer	4 50	Stove	4 95 ....
Broken	4 50	Chestnut	4 15 ....

At Baltimore, May 29, 1868.

Wilkesbarre & Pittston W. A. by car	$5 25@5 50	From wharf or yard, 50c. to 75c per ton additional	
Lykens Valley R. A. by car	@ 5 55	Retail, del'd, per 2,240 lbs	7 00@7 50
Sunbury & Shamokin R. or W. A. by car	5 00 5 50	George's C'k and Cumberland f. o. b. at Locust P't for shipping	....@4 75

At Havre de Grace, Md.

Wilkesbarre or Pittston, W. A., on board	$....@4 85	Sunbury or Shamokin, R. or W. A., on board	....@4 85
Trevorton R. A., on board	5 25	Lykens V'y, R. A. on b'd	....@5 50

Havre de Grace is the terminus of Susquehanna and Tide Water Canal.

At Georgetown, D. C. and Alexandria, Va.

George's Creek and Cumberland f. o. b. $....@ 4 35

Prices of Gas Coals.

May 22, 1868.

PROVINCIAL. Duty, $1 25	Coarse. Gold.	Slack. Gold.	AMERICAN	Coarse. Currency	Slack.
Block House	$1 75	$ 75	Westmoreland Co.	$8 50	$8 00
Gowrie	1 75	75	Despard	8 25	8 50
Lingan	1 75	75	Penn	8 50	8 00
Sydney	2 13¾	1 71¼	Newburgh Orrel Gas	8 50	8 00
Pictou	2 13¾	1 18¾	Delivered in New York.		
Little Glace Bay	1 75	1 00			
International Co.'s	1 75	....			

Prices of Foreign Coals.

Duty $1.25 per ton.

Corrected weekly by PARMELEE BROS., 32 Pine Street, N. Y.

Liverpool Gas Caking	$ 9 50	Liverpool House Cannel	18 00@19 00
" " Cannel	14 00	" " Orrel	16 00@18 00

Per ton 2240 lbs., Ex. ship.

PRICES FROM YARD:

Liverpool House Orrel, scr'd	$18@20	Livp'l House Can'l, scr'd	22 00@— —

per ton 2000 lbs. delivered.

Coal Freights.

(Corrected Weekly.)

Rates of Freight from Newburgh

RIVER.		EASTERN.	
On "Pittston" Coal, by boats and barges of the Pennsylvania Coal Company, per ton of 2,240 lbs.		Stamford	$1 25
Troy and West Troy	$ 55	Norwalk	1 25
Albany and Greenbush	50	Bridgeport	1 25
Coeymans	45	New Haven	1 25
Coxsackie and Stuyvesant	40	New London	1 40
Hudson & Catskill	35	Mystic	1 45
Sangerties and Barrytown	35	Stonington	1 45
Rhinebeck and Rondout	30	Sag Harbor	1 45
Po'keepsie and New Paltz Land.	25	Bristol	1 55
Fishkill Landing	20	Newport	1 55
Cold Spring and West Point	20	Fall River	1 55
Peekskill	40	Providence	1 60
Haverstraw	45	Dighton	1 60
Sing Sing and Nyack	50	Warren	1 60
Tarrytown and Piermont	50	Pawtucket	1 75
Yonkers	55	New Bedford	1 90
The Coal must be discharged with all reasonable dispatch, at the expense of the consignee, who shall also pay wharfage on the boat. Boatmen will tend guy while unloading.		Boston	1 90
		East Cambridge	2 10
		Salem	1 90
		Newburyport	2 00
		Portsmouth	1 95
		Portland	1 75

Freights on Coal Sea-borne from Port Richmond, Philadelphia.

May 27, 1868.—From Philadelphia & Reading Railroad Wharves, Phila., to

Boston	2 50	2 75	New York	— —	1 30
Portland	2 50	2 60	Chelsea	— —	2 50
Portsmouth	2 70	2 75	Cambridge	— —	2 90
Lynn	6 60	2 75	Danversport	— —	2 50
Salem	— —	2 50	Fall River	— —	2 10
Newport	— —	2 10	Nantucket	— —	2 40
Providence	2 00	2 30	New Bedford	2 10	2 30
Pawtucket and towing	— —	2 10	Rockport	— —	2 75
Norwich	— —	2 00	Hartford	— —	2 40
New London	— —	2 00	Stonington	— —	2 00
Brooklyn	— —	1 30	Stamford	— —	1 75
Charlestown	— —	2 50	Hudson	— —	1 50
Bangor	— —	2 50	Sag Harbor	— —	2 15
Bath	2 70	3 00	Staten Island	— —	1 30
Dighton	— —	2 25	Troy	— —	1 50
East Cambridge	— —	2 50	Savannah	— —	2 00
Williamsburg	1 25	1 30	Hallowell	— —	3 25

From Elizabethport and Port Johnston.

Albany	$ 90@— —		New London	$1 15	— —
Boston	1 80	— —	Newport	1 40	— —
Bridgeport	1 00	— —	New York	60	— —
Fall River	1 40	— —	Norwalk	1 00	— —
Hartford	1 50	— —	Norwich	1 25	— —
Hudson	1 00	— —	Pawtucket and towing	1 60	— —
Lynn	— —	— —	Portland	1 75	— —
Middletown	1 25	— —	Portsmouth	1 75	— —
New Bedford	1 50	— —	Providence	1 40	— —
Newburyport	2 10	— —	Salem	1 75	— —
New Haven	1 00	— —	Taunton	2 00	— —

Rates of Transportation to Tide Water.

[BY RAILROAD.]

To Port Richmond.—(Philadelphia.)

Philadelphia and Reading R. R. from Schuylkill Haven $2 00

The following are the drawbacks allowed on all coal shipped East of New Brunswick and South of Cape Henry, until further notice:

	Drawback.	Freight.	Nett.
Lump	$1 25	$2 00	$ 75
Steamboat	1 15	2 00	85
Broken	1 00	2 00	1 00
Egg	65	2 00	1 35
Stove	50	2 00	1 50
Chestnut	75	2 00	1 25

From Port Carbon, 8 cents per ton more.

To Elizabethport.

L. V. Railroad from Mauch Chunk to Easton	$ 69
C. R. R., N. J., Easton to Elizabethport	1 06
	1 75
Shipping Expenses at Elizabethport	25
Total	2 00

To Port Johnson.

L. V. R R.	$ 69
C. R. R. of N. J.	1 12
Shipping Expenses	25
Total	2 06

To Hoboken.

L. V. R.R.	69
Morris & Essex R.R.	1 12
Shipping Expenses	25
Total	2 06

[BY CANAL.]

To Port Richmond.

From Schuylkill Haven to Port Richmond	$1 00
Freights and tolls by Raritan Canal	1 90
	2 90
Drawback	30
Total	2 60

To New York.

From Mauch Chunk to New Brunswick, by Lehigh, Del. Div. and Del. & Raritan Canal	$ 90
Freights through	1 25
Towage	20
	2 35

To New York via Morris Canal.

Lehigh Canal	$ 34
Morris "	40
Towage	10
Freight	1 55
Total	2 39

Expenses from Mauch Chunk to Jersey City for Re-shipment.

Lehigh tolls (net)	$ 34
Morris "	34
Freight	1 50
Re shipping	30
Total	2 48

Foreign Freights.

New Castle and Ports on Tyne	£13@15 keel.
Liverpool	12s. 6d.@15s. ton.

AMERICAN

Journal of Mining.

WESTERN & COMPANY, PROPRIETORS.

ROSSITER W. RAYMOND, EDITOR.

OFFICE, 37 PARK ROW, NEW YORK.

By publishing contributions, the JOURNAL OF MINING does not necessarily endorse the positions assumed by contributors.

Published Every Saturday Morning.

TERMS.—SUBSCRIPTION, $4 00 per annum, in advance; $2 25 for six months Single copies Ten Cents. ADVERTISING: Twenty-five cents per line of thirteen words for each insertion inside, and forty cents outside. Terms invariably cash in advance.

DESIGNING, LITHOGRAPHING WOOD ENGRAVING, and JOB PRINTING Executed in elegant style, on reasonable terms.

☞ Mr. T. P. PEMBERTON is Editor of the Mechanical Department and Agent for the JOURNAL OF MINING.

☞ Correspondents, exchanges and others addressing us should be *extremely careful* to write "JOURNAL OF MINING," instead of "MINING JOURNAL," to ensure safe carriage. Communications intended for publication should be plainly written, and on one side o ithe paper only.

NEW YORK, SATURDAY, JUNE 6.

CONTENTS OF THIS NUMBER.

EDITORIAL.—J. Ross Browne's Report — The Four Elements — The Iron Foundry at Munich—Serpentine—Where was that Lack of Rain?
ORIGINAL PAPERS.—Notes on Lower California, No. IV, by W. M. Gabb.
PRACTICAL LETTERS.—Relative Economy of some of the Machines used in the Ventilation of Coal Mines, No. II, by R. P. Rothwell, M.E.—Lessons in Mechanical Drawing, No. II, by T. P. Pemberton.
CORRESPONDENCE.—Editorial Letter, No. II—The Patio Process.
ILLUSTRATIONS. — Telegraphic Burglar Alarm—View at the Paris Exposition — Improved Water Wheel —Patent Life Saving Apparatus.
MISCELLANEOUS.—Can Gun Cotton be Transported Safely? — Mining by Telegraph — Patent Fuel—Discovery of Magnetism.
MINING SUMMARY.—Gold and Silver: California — Nevada — Montana—Colorado — North Carolina—Idaho Arizona—Alaska—Utah—COAL AND IRON: Illinois—Pennsylvania.
SCIENTIFIC MEETINGS. — Lyceum of Natural History—Polytechnic Branch of the American Institute.
THE IRON TRADE.
THE COAL TRADE.—Quotations, Shipments, Freights.
PATENT CLAIMS.

J. ROSS BROWNE'S REPORT.

We have upon our table a copy of J. Ross BROWNE'S final report upon the mineral resources of the States and Territories west of the Rocky Mountains, which has just issued from the press. Having been subjected to the ordeal of a careful examination at our hands it now remains for us to speak of it in a manner that accords, in full, with the judgment at which we have arrived. In comparison to the large volume which lays before us, the preliminary report made near the close of the year 1866 sinks into insignificance not only in size, but also in what is of far greater importance—method and material; comprehensiveness in design and completeness in detail. It is very clear that in this report of the Special Commissioner, which comes to us in the form of a volume of near seven hundred pages, we have a work the real value of which is far more than commensurate with its cost—a work, a proper estimate of which ought to open the eyes of legislators to the unparalleled magnitude of our mineral resources, and arouse them to speedy action in the carrying out of a plan whereby these apparently inexhaustible resources may become the means of adding largely to the sum of private and public wealth. It is no more than fair for us to state at the outset that the idea of a Special Commission to examine into the extent and condition of the mines of the West originated with Mr. J. Ross BROWNE, whom as Commissioner of the regions west of the Rocky Mountains we now have to congratulate in having brought his labors to so successful a termination. Nor has the gathering of trustworthy statistics from all parts of this large extent of Territory been unaccompanied with difficulties. It should be remembered that this was the first attempt to collect together and collate the vast array of facts that pertain to the mining interests of the West. Hitherto there had existed no effective system for amassing such information; indeed no system at all. There was no lack of precedent, however. Long since, the various governments of Europe instituted systems by means of which they could obtain accurate and thorough knowledge in regard to the condition of the mining interests that were under their control. In order to render more appreciable the difficulties under which the Commission labored in order to bring its work to a successful conclusion, we may remark that no documents of an official character in the hands of the Government contained any accurate information.

It is at once apparent that the work of gathering information, both accurate and comprehensive, upon all the points contained in the letter of instructions, and that, too, over a stretch of country about a thousand miles in width, and extending from Lower California on the south to Alaska on the north, must have had connected with it many and serious obstacles. The only information that had hitherto been given to the public, had reached it, for the most part, through the channels of the public press, reports of scientific men engaged interest of speculative associations, published statements of mining companies, and the representations of the individual traveller. To collate this mass of floating material, in so far as it could be made available; to obtain accurate statements from mining companies, desiring, from motives of self-interest, to be represented in an official document as in a prosperous condition, whether in fact so or not; to reconcile many conflicting statements in regard to other companies,—to do all this, we remark, was a work of no ordinary magnitude. Moreover, that it was in no adequate sense remunerative, is at once evident, in view of the fact that the fund appropriated by Congress bore no comparison to the amount of labor required. We understand that the careful revision alone of the work of a corps of very able assistants occupied the commissioner more than four months. In view of this, and from the fact that Mr. BROWNE gathered a large amount of the material for his report from personal observation, we are led to the conclusion that we have before us a document unusually trustworthy, though, of course, from the nature of the case, not entirely free from an admixture of error. But now to look for a moment at the general features of the report. In the body of the work, we find the first three hundred pages devoted to the State of California. Then follows nearly one hundred and fifty pages upon the mineral resources of the State of Nevada. A report upon Arizona, Utah, Montana, and Idaho occupies the next hundred pages. Sixty pages are then devoted to memoirs upon Washington Territory, Oregon, and Alaska. After this we find a couple of sections given to general observations on the Pacific slope; progress of settlement; immigration and labor. To all this is very appropriately added an appendix of some ten pages, in which we learn of the instructions from the Commissioner of the General Land Office to the Registers and Receivers; supplementary instructions; abstract of duties; legislation in regard to mineral interests; importance of a National School of Mines,—one of the ablest and most jealous advocates of which, we are glad to say, is J. Ross BROWNE,—opinions of eminent public men; and, finally, Mr. Stewart's bill for the establishment of a National School of Mines.

In the report upon the State of California, which occupies nearly as much space as that of all the other States and Territories, the first section, among other things, speaks very briefly of the general condition of the mining interest, and of errors in mining. The second section is devoted to a description of "the mother lode," as it is called, which is considered in this report, as being, in many respects the most remarkable metalliferous vein in the world. After this we have the general mining summary for the State, given in a series of sections—the statements of the mines in each of the counties corresponding respectively to the sections. The two sections that follow the mining summary, one upon mining ditches, the other upon miscellaneous minerals of the Pacific coast, possess in themselves a good deal of interest. The agricultural resources of the State, and a general summary complete that part of the document devoted to California. Though many of the figures and general data in the mining summary, could be obtained only from the owners of mines, who from self-interested motives may have been disposed to misrepresent the facts in regard to their property, yet it is believed by the commissioner that the statements as made are generally true, and he hopes that, taken together, they will be found the fullest and most correct collection of important facts ever made in relation to gold mining. We learn from this report the condition of gold mining in California is upon the whole very favorable.

Says Mr. BROWNE, "The amount of production becomes smaller every year, but the decrease is confined chiefly to the placer yield. In quartz, more work is being done; it is being done better than ever before, and there are more mines in successful operation. The business is flourishing and improving, with a fair prospect of continuous increase; and the success of many of the mines is most brilliant." In speaking of the losses that have overtaken many who engaged in quartz mining enterprises—a business, it is remarked, offering unusual facilities to folly and ignorance for losing money—four fatal mistakes are mentioned, either one or all of which have brought about the many failures that have occurred in this particular kind of mining.

Mr. BROWNE lays great stress upon these blunders, as he terms them, so much, indeed, as to remark, that though they are being gradually corrected, yet if they were not still quite common, the quartz mines of California would yield nearly twice as much as they do. It may be interesting to our readers to know what, in Mr. BROWNE'S view, are these blunders that have exercised such a potent influence on the side of misfortune in these mining enterprises. He observes: "The greatest common blunder in quartz mining, and the most common error in early times as well as in our own days, has been that of erecting a mill before the vein was well opened, and its capacity to yield a large supply of good rock established. The commission of this blunder is conclusive proof of the utter incompetency of its author to have charge of any important mining enterprise. If there were any possibility that it should in some cases lead to considerable profit, there might be an excuse for it; but there is none—it never pays. All the chances, including that of utter failure, are against it." That this is the abyss, into which many a company starting with bright prospects, plunged headlong into ruin, we make no doubt. Nor has such an exhibition of ignorance been confined to California alone, Colorado has had a like bitter experience, and probably, to some extent, every mining State and Territory of the West. "The next blunder," observes Mr. BROWNE, "was that the difference between a pocket vein and a charge vein was not understood, and the existence of rich specimens was considered proof of the high value of a mine; whereas, among experienced quartz miners, it excites their suspicions and distrust. Nine-tenths of the lodes which yield rich specimens do not pay for milling. The next error was, that nothing was known of pay chimneys; and if good quartz was found in one place, it was presumed that the whole mine was of the same quality. In some cases the pay chimney was near the end of a claim into which it dipped not far from the surface, leaving the mill without rock. In other cases the miner had his pay chimney in his own claim, but did not know enough to follow it, and worked straight down into barren rock, while there was an abundant supply of good quartz higher up. The fourth and last of the more important errors mentioned, is that of sinking a shaft when nothing was found at the surface—a policy that many do in mining for other metals, but is very risky in case of gold. If the croppings are barren, along a considerable distance, deep sinkings will rarely pay; but if the vein does not crop out, the only way to examine it may be by a shaft."

After mentioning two or three other errors of minor importance, such as lack of assay of tailings, lack of supervision on the part of the owners, etc., Mr. BROWNE very appropriately sums the whole matter up in a very few words, when he says: "The business will never be established upon a proper basis until the superintendents, as a class, are well-educated chemists, mining, and mechanical engineers, and the mine owner's frequent visitors, if not regular residents at the mines."

Having said this much upon the general features of Mr. BROWNE'S report, we leave to future numbers an examination of some of the more important details in which we will take up the several States and Territories in their regular order.

THE FOUR ELEMENTS.

The old Alchemests resolved all substances in nature into four primary elements—Earth, Water, Air and Fire. Their ideas of elementary matters were, however, different from ours. We now consider none of those substances as elements. In our view the earth is made up of a mixture of a great many complex substances; water is composed of two simple elements; air a mixture of two; and fire, or heat, no longer taken as matter, is thought to be only a force. At bottom, this old theory of four elements was rather a classification of the substances found in nature than anything else. To earth, they accorded all kinds of minerals and metals, whatsoever their distinguishing features; to water, nearly all kinds of liquids; to air, all vapors and gaseous substances; and finally to fire, all the imponderable forces, such as light electricity, etc. Singularly enough, modern chemistry has established this fact that organic compounds, whether vegetable or animal, consist, in the main, of four really elementary substances; carbon, hydrogen, nitrogen, and oxygen. But it is still more a matter of wonder that the natural function and province of each of these simple substances has its counterpart, respectively, in the four substances distinguished by the alchemists as primary elements. As the earth was thought by them to be the principal element, to contain in itself the source of all life; so, now, as has been clearly shown, carbon is the fundamental substance in all organic compounds, whether belonging to the vegetable or animal kingdom. It has been very properly denominated "the great organizer." Moreover, by far the greater part of carbon is found in the earth where it is massed in the form of coal beds and petroleum springs, or where it appears much less abundantly in the state of graphite, or again, is only rarely met with in the highly-prized form of the diamond. As, with these old alchemists, water ranked next to earth in importance, so now it appears that hydrogen stands next to carbon in the making up of organic compounds. They thought that many bodies were composed of earth and water, while we now know that many consist only of carbon and hydrogen; moreover, it is known that almost the only source of hydrogen is water—two-thirds of its mass being formed from that element. Air, the third element in the rude chemistry of those gropers in the field of science, has four-fifths of its volume made up of the third element that we have instanced, viz.: nitrogen. The alchemist looked upon fire as the great purifier, and upon heat as the maintainer of all life, while we now understand that that is the natural function of oxygen. It is the great oxidizer and purifier; the supporter of combustion, and hence the producer of heat and maintainer of life. We see that many of the ideas of the alchemists, however mistaken they may have been in essential points, have, after all, some truth at bottom. They groped in blindness. What of truth their system contained is only clearly manifest, when viewed in the light of the science of the present day.

THE IRON FOUNDRY AT MUNICH.

The large government iron foundry at Munich, Germany, is threatened with extermination. The people's Parliament have requested the government to do away with it. They have done this from the fact that it works without any profitable results, but on the contrary with an annual deficit of some $700. This foundry is in fact an industrial school, so to speak, for the iron trade. In it, the ablest workmen of Germany can boast of having received their education. Its products have obtained a world-wide celebrity. Assuredly it would be a matter of regret to every one if the request of the Parliament were to be carried out. Besides several thousand

small figures, busts and other ornaments, this establishment has turned out not less than one hundred and forty-nine colossal statues, six equestrial statues, eight large ornamental gates, three high fountains, one obelisk one hundred feet in height, the ornament upon the tomb of Maximilian, and the statue of Bavaria, sixty feet in height. At the present moment, several large works are under way for Germany, Hungary and America. For the latter country, a fountain with sixteen figures is being made for the city of Cincinnati, another with five figures for Central Park, New York, a statue for St. Louis, six life-size figures for Washington monument in Richmond, Va. For South America, a statue of Bolivar, for the city of Bolivar, together with others too numerous to mention. What an idea—that such a renowned institution as that should be sacrificed on account of a paltry annual deficit of $700!

Exhibition Room for Telegraphic and Electric Apparatus.

We are glad to learn that MR. SAMUEL C. BISHOP has just engaged in an enterprise that will supply a much needed want in this city. He is about to open rooms at No. 113 Liberty street, for the purpose of receiving, caring for, and exhibiting all kinds of telegraphic and electric apparatus. MR. BISHOP proposes also to furnish battery power, so that at all times the inventor or manufacturer can have an opportunity of working his apparatus, and convincing the purchaser, if need be, of its practical value. Such an enterprise as this ought to be in the highest degree successful; and we doubt not that under the control of a man of the great business capability of MR. BISHOP, the expectations of the most sanguine will be fully met. It is a matter of great credit to MR. BISHOP that he has worked up a plan of this character. We understand that the rooms will be opened for the reception of articles on the 23d instant. The undertaking has our best wishes for its complete success.

Serpentine.

The serpentine quarries in Saxony, Germany, have lately come into the possession of a company with a large amount of capital. Now, instead of the manufacture of small objects of usefulness and ornament only, such as mortars, inkstands, and the like; large articles, sudh as monuments, baptismal fonts and mantel-pieces are made. The use of serpentine in combination with bronze and marble, was first introduced at this place. Serpentine works so easily that articles made from it can be sold 25 per cent. less than when made of marble. We have, on this side of the Atlantic. plenty of serpentine quarries. With skill, industry, enterprise and capital to develop them, a very profitable trade would spring from this, not the least of the mineral resources that are ours,

Where was that Lack of Rain?

Since writing our brief article under the head of "Sun-spots and Rain," news from France tells us that the lack of rain was there. The peasants are now rejoicing in view of the rains that have lately followed the frosts. In other places there may likewise have been a lack, counterbalanced, of course, by excess in other localities. We hear, for instance, that at Omaha unusually severe storms have lately inundated large tracts of land—this of course, at the expense of some other region.

EDITORIAL CORRESPONDENCE.—No. II.

Parallels—of Latitude and History.

ASPINWALL, May 17, 1868.

The latter part of the delightful voyage which has just terminated in the safe debarkation of our ship's company at this port, suggests many interesting comparisons to the student of history. The great COLUMBUS was the first who traversed these waters, and we are the last who have done so. To be sure, every sentimental passenger, just arrived at the Isthmus in a Pacific mail steamer, could make this striking remark; but it is not the less true in our particular case. We stand for a brief moment at the consummation of that path in which COLUMBUS took the first bold steps. And we may well believe that, great as is the admiration with which we look on him, he would gaze upon us with yet greater wonder and respect, should he come sailing to-day out of the East, with his quaint and clumsy caravels, and meet a splendid ocean steamer, not struggling with wind and wave, but disregarding both, with that sublime, calm certainty of triumph which critics find in the divine features of the Venus Vectrix. Far-fetched though this comparison may be, it is not more poetical than the illustrious navigator himself (who was a poet by nature) would have employed, to describe a sight so beautiful and grand. The simple natives of these islands thought the Spanish ships were heavenly birds, and mistook the cavaliers for centaurs; but those same cavaliers would have ascribed supernal (or perhaps infernal) origin to a locomotive.

Our voyage, like the first Westward course of COLUMBUS, has been highly favored with calm seas and fair weather. If he had met, on his way out, the same terrific storms which assailed his weather-beaten vessels, homeward bound, he would never have bequeathed to Spain and to mankind the fair New World. It is a pleasant coincidence, that the route of the Aspinwall steamers brings them near the very points to which he was first directed. Watling's Island is the land first seen on our course, after striking out from the coast; and it was this island which his little squadron passed in the night of the 11th October, 1492, and upon which the admiral himself perceived a light. The next day he landed at San Salvador (or Cat Island), a little further on; but the former was held to be the first discovered land, and on the strength of it, COLUMBUS received the pension of ten thousand maravedis, promised by the sovereigns of Spain to the actual discoverer of land.

The next day we behold the green shores and high, mountainous profile of Cuba. Here it was that the intrepid but visionary discoverer believed that he had found the famous island of Cipango, or Japan, but afterwards became convinced that it was the mainland of India, not far from Cathay; and amid its verdant mountains he expected to find the Great Khan of Tartary, and deliver to him the friendly letter from Ferdinand and Isabella, inviting him to become a Christian, and enter into alliance with Spain.

Not long after losing sight of Cuba, we see Santo Domingo, or Hispaniola, looming up in the distance. We do not pass sufficiently near it to distinguish any objects on its shores; but there would probably be nothing worth seeing. The saddest commentary upon Spanish misrule in these beautiful islands is their condition, after centuries of civilization. The innocent, hospitable, but manly race that once inhabited the great Archipelago, has long since disappeared. The Caribs, bold conquerors in their little world, stretching from their original home in the Appalachian valleys, through the Antilles to Brazil, have faded before conquerors more skilful, and more cruel. Wide plains, even whole islands, once cultivated and populous, have returned to the primeval wilderness; deserts now spread where once the gentle caciques held sway over their villages of contented subjects. In place of all these there are a few glittering cities, a corrupt and hollow refinement, a degrading oppression, and a mongrel race. Writers have described the former condition of these islands as an indolent paradise. We may perhaps find on many of them at the present day, equal indolence with far less virtue and happiness.

Santo Domingo is a striking example of these sad consequences. The Spanish portion of that island embraces a region highly favored by nature, yet not even its most prominent agricultural and mineral resources have been actively developed, and scarcely any branch of industry, worthy of the name, exists within its borders. Still the magnificent prospect of the Vega Real, "a vast and delicious plain, painted and enameled, as it were, with all the rich variety of tropical vegetation," which delighted the eyes of OJEDA and his companions, stretches away at the feet of the traveller, unaltered by four centuries. Still the River of Gold glitters with treasure; but the old workings of the Spaniards, from which so many millions of the precious metal were taken, are now forsaken, forgotten, and half-obliterated. The first "gold excitement" of history was in Santo Domingo; and history may repeat itself, before many years, and the tide of eager adventure and speculation may once more set towards the shores on which it broke of old. That noble Bay of Samana, called by COLUMBUS the Gulf of Arrows, the scene of the first hostile collision between the forces of the old and the new world, may play again an important part in the drama of events. With its admirable situation, its deposits of coal, its rich, though undeveloped back country, and its connection with a nation which desires, as much as it needs, the introduction of energy and activity, even though the American flag go with them, Samana would be an acquisition worth twice St. Thomas. The latter is barren, inconvenient, and only possessed, as a free port, of an artificial commercial importance, of which the greater natural advantages of its rivals are fast depriving it. Let Uncle Sam waste no money on St. Thomas, but lay his beneficent hands on Samana, revive the golden days of Little Spain, without their shame and cruelty, and raise this heaven-blessed, man-cursed island to the place that belongs to it, among the prosperous nations of the world.

Navasa, a small guano island, is the last land we see before arriving at Aspinwall. It is flat, but not very low—say from fifty to a hundred feet out of water. Yet the sailors say they have seen the waves running up to the top. Here there is a small settlement, a ship or so at anchor, and certain signs of business. The island belongs to a Baltimore firm, and rests under the American flag. COLUMBUS says nothing, that we can recollect, about guano. One of the most valuable commodities in this quarter of the world seemed worthless to him, while he fancied that he could scent in the breeze the cloves and cinnamon of the spicy islands of the East.

Aspinwall itself, at which we are now arrived, is a monument both of the old regime and the new; for its Spanish name was Colon, or Columbus, while its American name fitly embodies that spirit of commerce, industry and gain thereby, not by rapine and oppression, which shall yet renew the youth of these prematurely aged lands, and make their waste places blossom again as the rose. It.

Scientific Meetings.

POLYTECHNIC BRANCH OF THE AMERICAN INSTITUTE.

SCIENTIFIC NEWS—NOVEL THERMOMETER—UNIVERSAL POSTAL SCALE—CARPET BEATER—ELEVATED RAILWAY — DISCUSSION ON MERITS OF VARIOUS RAILROAD PLANS—MR. WOODBURY'S CAR.

This association met at its usual place of assembly—the Cooper Institute building—on Thursday evening last. The attendance was large. The audience were much interested in the various discussions, etc., that took place. PROF. S. D. TILLMAN, as usual, occupied the chair. HORACE GREELEY, the President of the American Institute, was also seated, for a while, upon the platform. An interesting batch of scientific news was first read by the chairman. We were told first of "a novel thermometer."

It seems that Dr. J. P. JOULE has constructed a thermometer upon a new principle. It consists of a copper tube, surrounding another tube, having a hinged bottom. Within the smaller tube, which is open at the top, is a fine wire, having a spiral form, and suspended by a silk thread, upon which a small mirror is fastened, so as to turn with the thread. When the bottom is closed, the mirror reflects a light, so as to mark zero on a graduated scale; but when open, the air inside the tube being warmer than that outside the apparatus, a current is established, which, by means of the spiral wire, twists the silk thread. A difference of one degree between the inside and outside air produces a current sufficient to cause a complete turn of the thread. The elevation of temperature within the tube is, according to the views of the author, produced by the absorption of heat by the copper tube, which is radiated internally.

It is evident this apparatus cannot be used out of doors on a windy day, or even in a room in which currents of air are moving. This piece of information gave rise to a brief explanation, on the part of the chairman, of the various kinds of thermometers now in use. The reading of the other items of scientific news was followed by the exhibition of a "Universal Postal Scale." This piece of mechanism was explained by the inventor, Mr. HUSSEY. It consists of a pair of scales, with a circular card, and index. Upon placing the letter to be mailed upon the scales, the index points at once to the figures indicating the amount of postage required. It also tells by what route packages should be sent in order that they incur the least amount of expense. The scale appears to be simple, substantial, and would undoubtedly prove very useful to those having much to do in the way of mailing letters.

JOHN R. FERGUSON now brought forward a somewhat novel invention, in the form of a carpet-beater. Gen. E. M. BARNUM then took up the subject of an elevated railway, and repeated, for the most part, what he had said the week before. A sharp discussion between the advocates of the Arcade and Elevated roads, which was not entirely free from personalities, followed.

HON. WM. WHITING now exhibited before the Society and explained in a very clear and accurate manner, the model of a Locomotive Car for either street or steam railways. This car is the invention of Mr. Joseph P. Woodbury, of Boston. A very difficult problem in railway mechanics has been solved. The construction is such that no driving wheels are necessary. Motion is communicated direct from the piston in the cylinder to the wheels of the truck by means of what, in technical language, are termed "parallel rods." By means of a system of springs all concussion, resulting from obstructions or the general unevenness of the track, is prevented from being imparted to the body of the car. The mechanism is, moreover, of such a peculiar construction that the truck is capable of a lateral, an up-and-down, and a circular movement in a horizontal plane, while the body of the car remains undisturbed.

A novel feature in the invention is, that in case of the circular movement of the truck, boiler, engine, and all connected therewith, revolve. That this invention is merely a novelty without utility, is disproved, from the fact that the cars have been run the past year on railroads with great success. One has been running for nearly two years on the Stoughton branch of the Boston and Providence railroad, and another in West Roxbury. We learn that the cost of a locomotive car capable of seating sixty persons, more or less, is about $10,000. We learn that one of these cars is to be run for the first time on Wednesday next, upon one of the roads in Brooklyn. The apparent advantages of this Steam Railway Car may be summed up as follows:

First. The Street Steam Car seldom gets out of order or needs repair. Second. It will seat forty passengers, and can carry one hundred. Third. It will run 100 miles per day, at a cost for fuel, oil, conductor and engineer, not exceeding $8, being less than one-half the expense of doing the same work with horses. Fourth. It will run easily around curves of thirty feet radius, and less, if required, without abrasion of the rail, such as is produced by all other cars. Fifth. It will not frighten horses, or make objectionable noise more than horse cars; the machinery being out of view, and there being no toothed gears, bell or whistle, and no puffing noise or visible escape from the exhaust steam. Sixth. It is as safe, easy and comfortable as the long cars on steam railways; it is warmed by steam when needful; it is free from jar, smell of oil, or steam from the machinery; the fuel used is hard coal, making no smoke. Seventh. It is so constructed, with an iron water tank partition between the engine and the passenger room as to be perfectly safe and comfortable for passengers. Eighth. The Steam Railway Car will seat fifty passengers, and will draw one seventy passenger car behind it, over any steam railway grade in the United States, or two seventy passenger cars on all railways of medium grade.

Ninth. The Steam Railway Car will run twenty-five miles per hour, at a cost not exceeding $12 per 100 miles for fuel, oil, engineer and conductor; it adapts itself to inequalities of the track with greater ease, is less liable to be thrown off, and causes less wear of rail than other cars. The locomotive, engine and tender being dispensed with, the weight of the passengers gives adhesion of the driving wheels to the rail. Tenth. For passenger travel on steam roads, for moderate distances, it is peculiarly adapted, and much more economical than the locomotive passenger train as now run, doing the same work at one-half the expense; the dead weight carried per passenger being only from 300 to 400 lbs. in the steam car, in place of 1,000 to 2,000 lbs. by the usual locomotive train.

There seems to be in this invention something that should really command the attention of our railway men. If, above all other cars, it offers to the public safety, comfort and speed, the sooner it is made use of, the better. Upon the exhibition of the model, a good deal of interest was manifested among the egineers present.

LYCEUM OF NATURAL HISTORY.

The weekly meeting of this society was held Monday evening last in the lecture room of Motte's Memorial House, near the corner of 27th street and Madison avenue. DR. NEWBERRY occupied the chair. After the transaction of business of a private character, PROF. JOY presented some statistics

showing the grade of heat during the week preceeding; the number of rainy days in the month of May, prevailing winds, etc.

DOCTOR JULIAN then gave the results of an analysis of an efflorescence that had made its appearance in a damp cellar in the upper and western part of the city. It consisted of sulphate of soda, with a trace of iron. The question was, as to the cause of its appearance. It was his opinion that it had its source in a heterogenous mass of rubbish that had lain for a long time near by. DOCTOR JULIAN then exhibited a sample of a deposit from a cave, on the border of a small island, near St. Bartholomew, in the West Indies. The deposit was in the form of a black shining mass, knee-deep, upon the bottom of the cave. It contained about three per cent. of phosphate of lime, and from forty to fifty per cent. of the exuviæ of insects. A cave on the island of St. Bartholomew had contained a deposit of real guano. The hight of the cave above water, containing, as it had, a deposit of guano, was an indication of an upheaval. The cave also contained blocks of limestone, very curiously corroded.

After considerable discussion as to time, the society adjourned over to the first Monday in October next.

[MS. FURNISHED TO THE AMERICAN JOURNAL OF MINING BY HON. J. ROSS BROWNE.]

NOTES ON LOWER CALIFORNIA.—NO. IV.

BY W. M GABB, ESQ., PHILADELPHIA, LATE OF THE CALIFORNIA GEOLOGICAL SURVEY.

[Continued from page 346.]

After leaving the granite ranges south of La Paz the whole appearance of the country changes, and with it the geological structure. The granite itself has disappeared, only to show itself as one or two insignificant outlines, and in its place comes in enormous deposits of sandstone, forming flat-topped mountains, ragged and precipitous along the east coast, but sloping off so gradually towards the Pacific as to merge invisibly into the broad, low plains of the west. Pretty regularly bordering the west coast, and occurring occasionally along the Gulf, are deposits of post-pliocene age, in places filled with and almost made up of the casts or shells of mollusca still living in the adjoining waters. Penetrating both these formations, and often capping one or the other, or both indiscriminately, are deposits of volcanic origin. These volcanic rocks usually occur as dykes or broad supeficial sheets which have been spread over the top of the mesa subsequent to the deposition of the post-pliocene, and are by no means uniform either in thickness or in the manner of their distribution. Very few volcanic cones exist. Almost the only ones are the volcans of the Virgins, north of Melije, and a series of cones and ridges extending westward to near San Gracio. Elsewhere the eruptions appear to have taken place in the form of long fissures, forming dykes, which having spread their surplus over the surrounding plains have closed, never again to re-open. In this manner immense areas have been covered with caps of eruptive rock, often a hundred feet thick, the source of which is now entirely hidden; an occasional hint only existing in the denuded section of some bluff, where the dyke has been cut through by the agency of running water.

The post-pliocene rocks usually lie on the lower margins of the mesa, in such a manner as to show that they were deposited during the period of elevation of this portion of the Peninsula. The older mesa sandstones are usually so little disturbed that the two formations seem conformable, though sufficient evidence exists to prove that the elevating forces had been acting for a long time before the oldest beds of the newer formation were deposited. This latter series consists of fine-grained argillaceous sandstones and shales, some coarse light gray sandstones, and lastly a thin bed, highly fossiliferous as are also some of the earlier strata, but the latter highly calcareous. Where the series remains unbroken, this last stratum is always the highest, and it is nearly made up of the casts of living species of shells, *Ostrea Cummingii* being almost the only one retaining its structure. At Parissima, on the west slope, the mesa sandstones have been folded in a series of long and graceful undulations, the tops denuded to a nearly straight line and the post-pliocene lies unconformably capping the surface. On the opposite side of the mountains bordering the Gulf, there are still more marked instances of unconformability, which will be described in the proper place.

The mesa sandstones are easily distinguished from the overlying rocks by their coarser grain, greater compactness, and, above all, by their being highly metamorphised along the greater part of their eastern margins. Another marked feature is the presence of large quantities of boulders and pebbles of volcanic rocks embedded in them, sometimes to such an extent as to form even a preponderance of the bulk of some strata. These boulders are uniformly small and very much rounded near the west coast, wherever the rock is encountered, and increase in size towards the vicinity of Loreto, or rather towards that part of the coast a little below Loreto, in such a manner as to point unmistakably to this region for their origin. Not only does the size increase, but in the same ratio is the increase in number and the decrease in the amount of attrition to which they have been subjected. The lithological characters vary markedly from those of any eruptive rocks encountered in place on the Peninsula; no similar rocks have been discovered between the mesa sandstone and the underlying granite, and the only reasonable conclusion which can be arrived at is that they must have been derived from a body of land which formerly lay in that region now occupied by the Gulf, and somewhere in the vicinity of, or a little south of Carmen Island.

[TO BE CONTINUED.]

Correspondence.

[To insure insertion of Correspondence in our columns the full name and address of the writer must be given.]

The Patio Process

SCRANTON, Pa., June 1, 1868.

EDITOR AMERICAN JOURNAL OF MINING:

I notice in your number of May 30, a communication from Mr. KUSTEL, regarding some assertions in my articles on Metallurgy in Mexico. When I made these observations on Mr. KUSTEL's work, I merely intended them as corrections of slight oversights in what must be considered the best practical work on the subject of gold and silver extraction in the English language. When I saw it asserted that "gold ore and argentiferous lead ores are entirely excluded from this process," and that "ores containing gold cannot be treated by patio," I understood it to mean, that auriferous silver ores, or silver ores containing lead, *cannot* be operated on by this system; but I see that Mr. KUSTEL means that they cannot be *economically* treated so. Even this I doubt with regard to auriferous silver ores, at least—particularly in a country circumstanced as Mexico is. These ores have been treated exclusively by this system, in the great mining district of Guanajuato, for three hundred years, and during the last forty years there have been numerous excellent assayers, European and others, engaged in beneficiating ores, and they have made no change in the old method.

The assertion of NAPIER, that twenty-five to thirty per cent., and even sometimes forty per cent., of gold is lost, is, I think, an exaggeration. And his other statement, that "the silver of the patio in Guanajuato always contains a certain amount of gold, and the polvillos, from the tailings, always contain some gold," only proves my assertion. The gold contained by the silver is extracted in the mint by the apartado process, the latter metal being dissolved in nitric acid, the gold remaining untouched. That the polvillos contain gold, is, of course, true. He might have added silver also. These polvillos are the heaviest portion of the tailings, reduced to a still smaller bulk, on the ptonilla, and are roasted or calcined, and again submitted to the patio process, so that a very small amount of the precious metals are ultimately lost. That I never meant to assert that the gold extracted in the arastra should be considered to come under the patio process, is proved by the following extract from my article:—"With the exception of the gold amalgam, scraped from the arastras, all the gold produced in Mexico is yielded by the patio."

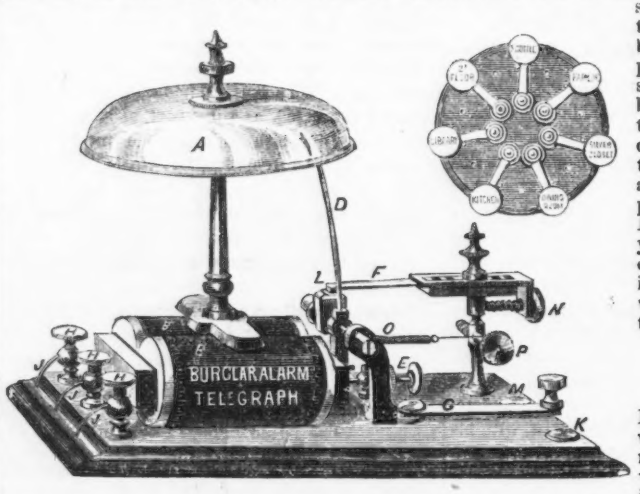
With regard to silver ores, containing lead "plomosos," they are, if the latter metal is not in large quantities, treated always by patio; though, from the heavier loss of quicksilver, they are not considered so favorable as those not plumbiferous. If rich, the polvillos, forming perhaps one-half the original bulk of the ore, are smelted after the amalgamation. When the ores contain lead in large proportion they are always treated by smelting. I believe thirty-five per cent. of silver is a common loss in amalgating silver ores in pans; but nevertheless it strikes me that it would scarcely be correct to say they cannot be beneficiated by that system.

I believe any difference of opinion between Mr. KUSTEL and myself has been caused by a mutual misunderstanding, rather than by any real difference in our opinions.

D. COGHLAN.

TELEGRAPHIC BURGLAR ALARM.

After we have accumulated wealth as the reward of enterprise and honest industry, or even if not so fortunate, we possess but a small share of this world's goods, it is only natural that, with our knowledge of the sinfulness of human nature and the indomitable propensities of some who, in spite of all law and right, will break through and steal, we should cast our eyes about for the most effectual means of protecting our lives and property. We don't like to awake from our peaceful slumbers and find in our apartment one whose



"—Hand is on his pistol,
On its ornamented stock,
While his finger feels the trigger,
And is busy with the lock."

No: we immediately surmise that the intentions of such a visitor are neither honorable nor honest, and unless we feel very brave and cool (feelings not likely to occupy our breasts when suddenly startled and confronted by a grim-looking visage), we shall certainly meet our visitor under disadvantageous circumstances. But we give our readers the representation of a simple and most effective device by which they may be alarmed, without becoming frightened, and by which they may be forewarned and forearmed, in cases of approaching danger. The engraving illustrates a Burglar Alarm, or, to be more explicit, an apparatus so arranged that no burglar or person can make an entrance through the doors of the house to which it is applied without the occupant being immediately apprised of the fact.

It will be noticed that the arrangement is worked by means of a battery and telegraph machinery, as follows: *A*, alarm bell; *BB*, magnets; *C*, armature; *D*, bell hammer; *E*, regulating screw; *F*, silver circuit breaker; *G*, switch; *HHH*, screw cups; *I*, black walnut base; *JJJ*, the several wires from about the house terminating at the bell; *K*, test screw; *L*, ivory circuit breaker; *M*, connecting screw; *N*, regulating screw; *O*, spiral spring; *P*, tension screw. One bell only is required for an entire house, and electricity, invisibly connected, rings this bell in the sleeping room, where it is set for the night, upon the opening of any one, or all of the many doors and windows of the house. An Indicator shows the room in which the window or door is opened. Every exposed door and window of the house is connected with this bell by wires and springs, but not a wire, or spring, or machinery of any kind, except the bell, can be seen in the house.

It can be introduced into any house without defacing it in the least; not a board is removed, not a mark or scratch can be seen in consequence; it occasions no inconvenience whatever. The whole arrangement is controlled by the switch G on the bell, which attaches the entire house at night and detaches it in the day-time, and the bell gives instant alarm if a door or window is accidentally left open at night. Among the numerous advantages and conveniences of this device, we may mention that communication can be made from parlors to stables or out-buildings, and this is done by the simple touch of a small spring. The battery is placed in a box twenty inches long, nine inches high, and six inches wide, with a lock and key; it is not offensive, nor inconvenient, but is always in operation, and requires but five minutes attention once in two months. The expense is moderate, and the whole invention is simple, very effective, and acknowledged by all who use it as a complete protection from burglars. It has been in successful operation for the last eight years; during that time many attempts have been made by burglars upon houses, offices, stables, &c., protected by this invention, but in no case has it failed to give the alarm, consequently saving property and perhaps lives.

All further information may be obtained from E. Holmes, 201 Broadway, N. Y., or at 114 Dearborn street, Chicago, Ill.

Patent Fuel.

At a recent meeting of the South Wales Institute of Engineers in the course of some remarks on the utilization of small coal by manufacturing it into blocks of fuel, Mr. LUCKES, from the Forest of Dean Works, alluded to the manufacture of fuel bricks at his establishment by a machine, the invention of Mr. Haywood, of Gloucester, and manufactured by the Uskside Company, at Newport, in a very satisfactory manner. The blocks of fuel were dipped into petroleum, and a large quantity absorbed. The block was then made waterproof and a lighted candle could be passed over it without its becoming ignited; but the block, when broken, ignited immediately, and burnt with great brilliancy. He thought this would form a most important addition to the fuel employed for marine engines, provided means could be adopted for stowing it in safety.

Mining by Telegraph.

A cotemporary, in speaking of a recent telegraph signal for our mines—to be used at any required depth, and to act instantaneously upon touch—gives credit for the invention to Mr. Frank Thayer, foreman of the Savage mine. This morning we had the pleasure of seeing the new signal, and learned that Mr. J. G. Bloomer, head telegraph agent in this city. is the real and only inventor, and to him alone does the credit belong, as it should be given. The arrangement is simple enough, and only requires a system of preconcerted signals for the different levels of the mine. At every station is placed a small signal box, with a tiny bell attached, and a loop for the finger to grasp. From these signal boxes—which contain a magnet working like a lever—wires connect with a battery in the engine room and to another box with a larger magnet, which in turn works on a spring connecting with the clapper of a large clear-sounding bell. Say, if the signal at the third station be three bells to hoist, the carman goes to the shaft, steps to the signal box, inserts his finger in the loop and gives three pulls. The small bell tinkles three times and instantaneously the magnets connect and the large bell at the engineer's elbow must also tap three times, making the signal complete. In every compartment are separate wires, and at every station a signal box. The invention is perfect, and acted in our presence without any fault. It is simple, not expensive, and as sure as lightning. Mr. Bloomer deserves great credit for his ingenious yet simple discovery of what will prove of practical utility in all our deep mines. The instrument is not yet complete, but will be in a short time, when the public will be invited to examine for themselves.—*Virginia* (Nevada) *Telegraph.*

Discovery in Magnetism.

M. Gerard has discovered a very curious fact. If a metallic ring made of wire, the diameter of which varies regularly, so that at one side of the ring it is very thin and at the other side relatively very thick, be suspended over an electro-magnet, it will begin to revolve. The author sees in this fact the germs of a new system of electric telegraphy, for the details of which we wait.

Patent Claims.

Interesting to Miners, Millmen, Metallurgists, Oil-Men and Others.

77,987.—MODE OF UTILIZING TIN SCRAP OR WASTE.—Carl Kuehn, Vienna, Austria, assignor to Joseph Von Wessely, New York city.

I claim, 1st. The method herein described of utilizing tinned iron waste by digesting the waste in hot water, in combination with muriatic and nitric acids, substantially as set forth.

2d. The method herein described of collecting the metallic tin from the solution herein described by means of zinc plates immersed therein, and exciting galvanic action, to cause the tin to be deposited on the plates, as set forth.

3d. The method herein described of segregating the tin and the iron by means of heat, water, muriatic and nitric acids, evaporation, chrystallization, and galvanic action.

78,001.—PROCESS OF SEPARATING COBALT AND NICKEL FROM OTHER ORES.—Alfred Monnier, Philadelphia, Pa.

I claim the treatment of a solution of cobalt, nickel, iron, and manganese, for the purpose of separating one or both of the two former from one or both of the two latter metals, substantially as herein set forth.

78,005.—MANUFACTURE OF SULPHATE OF ALUMINA.—Henry Pemberton, Allegheny City, Pa.

I claim the employment, in the manufacture of the sulphate and other salts of alumina, of the improved processes hereinbefore described.

87,007.—FURNACE FOR MELTING METALS, GLASS, &c.—William P. Prickett, Philadelphia, Pa.

I claim the application, to furnaces, of the base upon which the pots or crucibles rest, and the small apertures opposite each, that lead into the surrounding flue, and from thence into the main stack or chimney, substantially as herein described and set forth.

78,041.—MANUFACTURE OF STEEL.—Fritz Ashtower, Witten an der Ruhr, Prussia, assignor to Joseph Von Weasely, New York city.

I claim, 1st. The combination of the fire chamber, A, and crucible chambers, C E, as and for the purposes set forth.

2d. The construction of the dome of the furnace with vertical plugged openings, as described, to afford a view of the interior.

3d. The crucibles, having plugged covers arranged beneath the openings in the domes, as and for the purpose described.

78,061.—MODE OF TREATING MINERAL PHOSPHATES FOR THE MANUFACTURE OF FERTILIZERS.—John Commins, Charleston, S. C.

I claim, 1st. Treating mineral or earthy or natural phosphates, while in a heated state, with gas liquor and sulphuric acid, when such phosphates have previously been treated with a solution of chloride of sodium.

2d. Treating such phosphates, when in a heated state, with gas liquer, when such liquor is combined with sulphuric acid, or any other acid or salt, whether such phosphates have been previously treated with a solution of chloride of sodium or not, substantially as, and for the purpose described.

RE-ISSUE.

2,922.—PREPARING CEMENT FROM SLAGS.—John James Bodmer, Newport, England. Patented November 5, 1867.

I claim, 1st. The rolling, laminating, grinding, and otherwise reducing or converting to scale or sheets, or to a lamellated or to a pulverized state or condition, the cinder, slag, or scoria obtained from blast furnaces, copper smelting and other furnaces, in a fluid or semi-fluid or pasty or vicious condition, in the manner and for the purposes substantially as described, and for other purposes.

2d. The rolling, laminating, grinding, and otherwise reducing or converting to scale, or to a lamellated or to a pulverulent condition, of various descriptions of cement, and of materials from which cements are to be produced substantially as described.

3d. the application of slag, cinder, or scoria, whether artificially prepared for the purpose, or as obtained from blast furnaces or other furnaces, in the manufacture of cement, and the several modes of processes employed in the preparation of cement, substantially as described.

4th. The manufacture of artificial stone from the above-described cements, either by themselves, or with the admixture of coarsely ground materials, such as furnace slags, scoria, any descriptions of hard stones, or of shingle, sand, or other materials of a similar nature.

LIFE IS ILLUSTRATED
IN ALL ITS VARIOUS PHASES,
IN THE
PHRENOLOGICAL JOURNAL,
A
FIRST CLASS MONTHLY MAGAZINE,
NOW IN ITS
FORTY-EIGHTH VOLUME.
Edited and published in the City of New York,
AT $3 A YEAR,
BY
S. R. WELLS,
389 BROADWAY.
je6

BEST BOOKS ON PHRENOLOGY.

Constitution of Man, by George Combe. $1 75
Complete Works of Dr. Gall, 6 vols. 15 00
Education Complete; embracing Physiology, Animal and Mental Self Culture and Memory, in one large volume. 4 00
Education Founded on the Nature of Man. By Dr. Spurzheim. 1 50
Lectures on Mental Science. 1 50
Combe's System of Phrenology. 2 00
Spurzheim's System. 2 50
Gall and Spurzheim's Physiognomical System, illustrated with 19 Copper Plates. 10 00
New Physiognomy or Signs of Character, with over 1,000 illustrations. 5 00

S. R. WELLS, Publisher,
389 Broadway, N. Y.
je6

"NEW BOOKS."

Education of the Feelings and Affections. By Charles Bray, of London. $1 75
Emphatic Diaglott, Containing the original Greek Text of the New Testament. 4 00
Pope's Essay on Man. Illustrated. 1 00
Æsop's Fables. Beautifully Illustrated. 1 00
Oratory; or, the Extemporaneous Speaker. 1 50
Life in the West. By N. C. Meeker. 2 00
Food and Diet, with Observations on the Dietetical Regimen. By Dr. Pereira. 1 75
New Physiognomy, with over 1,000 illustrations. 5 00
The Indispensable Hand-Book; How to Write, How to Talk, How to Behave, and How to do Business. Complete in one large volume. 2 25
The Illustrated Phrenological Journal for June. 30

S. R. WELLS, Publisher,
389 Broadway, N. Y.
je6

GOOD BOOKS ON HEALTH AND DISEASE.

Children; their Management. By Dr. Shaw. $1 75
Consumption; its Cause and Cure. 1 50
Domestic Practice of Hydropathy. By Dr. Johnson. 2 00
Family Physician. By Dr. Shew. 4 00
Hydropathic Encyclopedia. By Dr. Trall. 4 50
Midwifery, and the Diseases of Women. 1 75
Chronic Diseases. By Dr. Gully. 2 00
Family Gymnasium. By Dr. Trall. 1 75
Family Dentist. 1 50
Fruits and Farinaceæ: The Proper Food for Man. 1 75
Natural Laws of Man. By Dr. Spurzheim. 75

S. R. WELLS, 389 Broadway, N. Y.
je6

THE FUEL SAVING
FURNACE COMPANY,
No. 205 BROADWAY,
Jan. 1, '68-1y NEW YORK.

AA American A
NATURAL LUBRICATING OILS
PREPARED EXPRESSLY FOR ALL CLASSES OF MACHINERY.
DO NOT CHILL.
GUARANTEED FREE from GUM OR GRIT.
Endorsed by the leading MECHANICIANS and ARTISANS of the United States and Europe as the
BEST LUBRICATORS
IN USE.
Send for Circulars.
S. ST. JOHN, Agent,
Volcanic Oil and Coal Co.,
7 Broadway, New York.
Box 4781. may16-1y

STANDARD SCALES
RECEIVED THE FIRST PREMIUMS AT THE GREAT PARIS EXHIBITION.
Send for Illustrated and Descriptive Pamphlet.
FAIRBANKS & CO.,
252 Broadway, N. Y.

EVERY FARMER SHOULD HAVE THE WORK!
"STERILITY IS LAID."
PROF. VILLE'S NEW SYSTEM OF AGRICULTURE.
AN ADDRESS BEFORE THE BEDFORD, N. H., FARMERS' CLUB, FEB. 28, 1868, by JOHN A. RIDDLE, Esq.
Published by request of Club. Price 25 cents.
For sale by WESTERN & CO.,
may23:tf 37 Park Row, New York.

CAMPBELL, WHITTIER & CO.,
MANUFACTURERS OF
STEAM ENGINES, BOILERS, STAMP MILLS,
MINING MACHINERY,
and MACHINERY IN GENERAL.
Sole Agents and Manufacturers of
MILLER'S PATENT SAFETY ELEVATORS
For Factories, Stores, Machine Shops, Warehouses, Freight Depots, &c.
BOSTON, MASS.
J. RUSSELL CAMPBELL. CHARLES WHITTIER. HENRY B. M'BURNEY.
jan25:6m

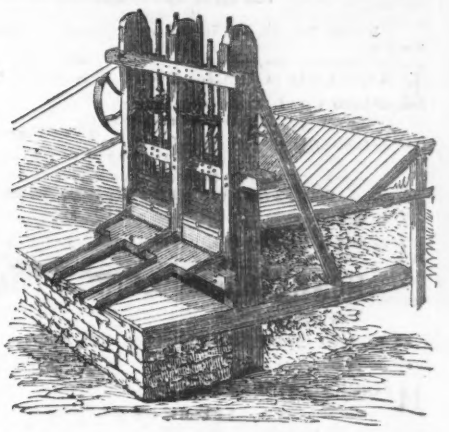
ANDREWS'
PATENT ENGINES, BOILERS, PUMPS and HOISTERS.
OSCILLATING ENGINES, run at great speed. Sizes ½ to 250 Horse-Power.
SMOKE-BURNING AND SUPER-HEATING BOILERS are Economical and Safe.
CENTRIFUGAL PUMPS, pass Sand, Coal, Corn, Gravel, &c., without injury. Capacity 90 to 40,000 galls. per minute.
HOISTING MACHINES, run without noise; speed changed or reversed instantaneously.
All Compact, Light and Durable.
Address manufacturers, WM. D. ANDREWS & BRO.,
May30 No. 414 Water street.

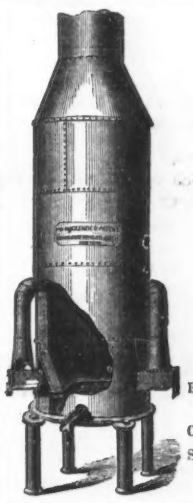
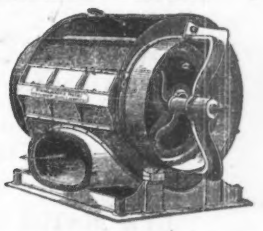
THE DESPARD COAL COMPANY
OFFER THEIR SUPERIOR
DESPARD COAL
To Gas Light Companies throughout the country.
MINES IN HARRISON COUNTY, West Virginia.
WHARVES, LOCUST POINT, } Baltimore.
COMPANY'S OFFICE No. 29 South street, }
Agents, PARMLEE BROTHERS, No. 32 Pine street, New York.
BANGS & HORTON, No. 31 Doane street, Boston.
Among the consumers of Despard Coal we name: Manhattan Gas Light Company, New York; Metropolitan Gas Light Co., New York; Jersey City Gas Light Co., Jersey City, N. J.; Washington Gas Light Co., Washington, D. C.; Portland Gas Light Co., Portland, Maine.
Reference to them is requested. May 30

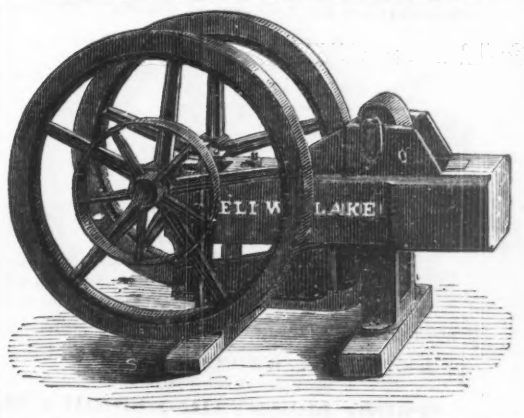
THE MASS. INSTITUTE OF TECHNOLOGY
Offers a thorough and practical general education, founded upon the Mathematical, Physical and Natural Sciences, English and other Modern Languages, and Mental and Political Science; also, a full course of Studies and Practical Exercises for students preparing for the professions of the Civil, Mechanical, and Mining Engineer, Chemist, Metallurgist and Architect.
The course extends through four years, the studies of the first and second being common to all; those of the third and fourth selected to suit the profession in view.
Minimum age of admission, sixteen. Entrance examinations are held July 13th and September 28th. For fees and other particulars address "Prof. WILLIAM P. ATKINSON, Sec'y of Faculty Mass. Inst. of Technology, Boston."
may16:4t WILLIAM B. ROGERS, President.

M. E. MEEKER,
MANUFACTURER AND JOBBER OF
ENGRAVINGS, CHROMOS,
PHOTOGRAPHS,
PICTURE FRAMES ALBUMS STEREOSCOPES,
VIEWS, &c.
No. 106 NASSAU STREET, New York,
ONE DOOR FROM ANN STREET.

CONTRACTORS, QUARRYMEN and MINERS engaged in blasting Rock can save from FOUR to TEN DOLLARS per day by using WEILER'S PATENT PORTABLE ROCK DRILLING MACHINE, which, with one man to operate it, will do more work than three men. Address WEILER & DUFFORD, Washington, N. J. may23

METALLURGY.
MOREY, SPERRY, & CO.,
MANUFACTURERS OF
ALL KINDS OF MINING MACHINERY.

CALIFORNIA STAMP MILLS,
WITH WOOD FRAMES.
Wheeler, Randall & Sperry's Iron Batteries,
WHEELER & RANDALL'S
PATENT EXCELSIOR GRINDER & AMALGAMATOR,
THE BEST IN USE.
HEPBURN & PETERSON'S
PATENT PAN AND SEPARATOR.
WHEELER & RANDALL'S
Patent Conoidal Separator, with Latest Improvements.
WHEELER & RANDALL'S PATENT CONCENTRATOR,
With Z. Wheeler's Patent Self-Discharging Quicksilver Apparatus. This machine is an entire success.
Rock Breakers, Engines, Boilers, Shafting, &c., &c. Furnaces. Shoes and Dies of the best White Iron. Retorts for Gold and Silver. Also furnish all kinds of mining supplies. Prof. Wurtz's Sodium Amalgam. Nitrate of Mercury (application patented by Henry Brevoort, Esq.), &c.
Will also furnish complete Plans and Specifications for Mills, Machinery and Buildings, and give practical information in Mining, Milling, Amalgamating and Concentrating Gold and Silver Ores.
Agents for H. J. BOOTH & Co., San Francisco, also for Miners' Foundry, San Francisco.
MOREY, SPERRY & CO.,
95 Liberty street, New York.
F. MOREY. J. A. SPERRY. P. M. RANDALL,
may9 Of Wheeler & Randall, San Francisco.


SMITH & SAYRE
MANUFACTURING COMPANY,
PROPRIETORS AND MANUFACTURERS
OF THE
MACKENZIE PATENT

BLOWER and CUPOLA and SMELTING FURNACE,
Also, Mackenzie's Patent GAS EXHAUSTER and COMPENSATOR. Address
SMITH & SAYRE MANUFACTURING COMPANY.
95 Liberty street, N. Y.
Send for illustrated pamphlet. mar26

BLAKE'S STONE BREAKER.


The office of this Machine is to break Ores and Minerals of every kind into small fragments, preparatory to their further comminution by other machinery.
The machine has now been in use, enduring the severest tests, for the last ten years, during which time it has been introduced into almost every country on the globe, and is everywhere received with great and increasing favor as a labor saving machine of the first order.
Illustrated circulars, fully describing the machine, with ample testimonials to its efficiency and utility, will be furnished on application, by letter, to the undersigned.
The Patents obtained for this machine in the United States and in England having been fully sustained by the courts, after well contested suits in both countries, all persons are hereby cautioned not to violate them: and they are informed that every machine now in use or offered for sale, not made by us, in which the ores are crushed between upright convergent faces or jaws actuated by a revolving shaft and fly wheel, are made and used in violation of our patent.
BLAKE, BROTHERS,
mar14-1y 351 New Haven, Conn.

ASSAY FURNACES.—Pietsch's Improved Kent's Universal Furnace for melting ores, cupelling and distilling. Light and durable, and all that is desired for the laboratory or for dentists' use. Cupel moulds, tongs, and Iron Retorts of all sizes. Address HERMAN PIETSCH, manufacturer of Chemical Apparatus, 183 Delancey street, N. Y. Reference, EDWARD N. KENT, Chemist, 14th street, formerly melter and refiner at the U. S. Assay Office. ap4:3m

COAL DEALERS & SHIPPERS.

WHITE, FOWLER & SNOW,

Successors to JOHN WHITE & CO.,

Wilkesbarre and Lehigh Coal,

FOR STEAM AND FAMILY USE.

OFFICE,

Room No. 75, 111 Broadway, (Trinity Building).

JNO. WHITE. LINDLEY H. FOWLER dec30 LOUIS T. SNOW.

ENGLISH COAL AND CANNEL.

DESPARD COAL, from Baltimore,

PROVINCIAL COAL,

ANTHRACITE COAL,

For Sale in Lots to suit.

PARMELE BROS.,

AGENCY OF GEORGE WRIGHT & CO., LIVERPCOL,

Office, No. 32 PINE STREET, NEW YORK.

dec30:68:67 Yard, West 22d Street, near 10th Avenue.

HONEY BROOK COAL COMPANY,

Exclusive Miners and Shippers of the Celebrated

HONEY BROOK LEHIGH COAL,

NO. 111 BROADWAY, NEW YORK.

JAS. H. LYLES, Agent.

Wharves, Port Johnston, N. J. Philadelphia Office, 209 Walnut street.

ap20:1y **J. B. McCREARY, President.**

HECKSCHER, BOWNS & CO.,

NO. 111 BROADWAY,

(TRINITY BUILDING), ROOM 79, NEW YORK CITY.

Wholesale dealers in the best qualities

ANTHRACITE AND BITUMINOUS COAL.

Agents for the celebrated "HARTFORD ASSOCIATED COAL COMPANY'S" COAL.

Wharves: Pier No. 4, Port Richmond, Philadelphia; foot 20th street, East River. vol2:5qp

---

CALDWELL, GORDON & CO.,

WHOLESALE DEALERS IN

ANTHRACITE AND BITUMINOUS COAL.

HENRY HEIL'S

CELEBRATED EAST FRANKLIN COAL,

NO. 35 PINE STREET, NEW YORK.

S. CALDWELL, JR. F. A. HALL, N. P. GORDON, S. B. YOUNG

BOSTON, Office 144 State St. PHILADELPHIA, 112 Walnut St.

jan6:1f

DAY, HUDDELL & CO.,

MINERS AND SHIPPERS OF

HARLEIGH LEHIGH COAL,

And the Celebrated

HICKORY, BROAD MOUNTAIN, EXCELSIOR, SHAMOKIN AND NEW ENGLAND RED ASH.

OFFICES:

Room 51, TRINITY BUILDING, 111 Broadway.

Philadelphia, 109 WALNUT STREET. **Boston,** 7 DOANE STREET.

ap20 :1y

LEWIS AUDENRIED & CO.,

Miners and Shippers of

CELEBRATED ANTHRACITE COALS,

Dismond Vein and Locust Mountain.

FROM PHILADELPHIA AND THE MINES, ELIZABETHPORT AND JERSEY CITY

Also, superior CUMBERLAND COALS.

205 Walnut street, PHILA. 14 Kilby street, BOSTON.

20 Westminster street, PROV. 24 Second street, BALTIMORE

27-1f 110 BROADWAY, NEW YORK.

SAMUEL BONNELL, JR.,

OFFERS FOR SALE

SUGAR CREEK

LEHIGH COAL,

Delivered on board vessels at Pier No. 4, Elizabethport, N. J.

Office, 43 & 45 Trinity Building, 111 Broadway N. Y. 13.qp:y

NEW BOSTON COAL MINING COMPANY,

Office, No. 55 Broadway, New York.

Miners and Shippers of Superior

BUCK MOUNTAIN COAL,

Deliverable at Elizabethport and the Harbour of New York. Supplied to Steamers, Dealers and Manufacturers at market rates.

F. H. DELANO, Treasurer. dec28-67-68 G. WAYLAND, Sales Agent.

REPPLIER, FREEMAN & CO.,

MINERS AND SHIPPERS OF

REPPLIER'S LOCUST MOUNTAIN, DUNCAN RED ASH

AND

CUMBERLAND COALS.

WHARF, NORTH EIGHTH STREET, WILLIAMSBURG.

Office, - - - - - - - 111 Broadway, New York.

mar30:1y

COXE BRO.'S & CO.

CROSS CREEK COLLIERY.

MINERS AND SHIPPERS

of the Celebrated Cross Creek

Free Burning Lehigh Red Ash Coal

FROM THE BUCK MOUNTAIN VEIN

OFFICES:

Philadelphia, Walnut Street. | Drifton, Jeddo P. O. Luzerne, Co., Pa.

Agent in New York SAMUEL BONNELL, JR., Room 43, Trinity Building, 111 Broadway.

Feb. 1-1 yr

RANDOLPH BROTHERS,

SOLE AGENTS OF THE ORIGINAL

SPRING MOUNTAIN LEHIGH COAL,

Extensively Used for Smelting Iron.

ROOMS, 28 AND 30 TRINITY BUILDING, NEW YORK o.17tf

ASHBURTON COAL CO.,

MINERS AND SHIPPERS OF

'LEHIGH COAL,

Delivered direct from the mines, or for reshipment at Port Johnston

LOUIS J. BELLONI, Jr., Prest.

2.4 qp OFFICE, No. 41 PINE STREET, NEWYORK.

WILKESBARRE COAL,

DELIVERED DIRECT FROM THE MINES OF

The Wilkesbarre Coal and Iron Company,

OR, FOR RESHIPMENT AT

HOBOKEN AND JERSEY CITY.

OFFICE—No. 16 WALL STREET, NEW YORK

mar14-1y

THE WESTMORELAND COAL COMP'Y

OFFER THEIR SUPERIOR QUALITY OF

BITUMINOUS COAL

To Gas Companies,

Railroad Corporations,

And Manufacturers of

IRON AND STEEL.

More than two millions of tons of their Coal have been distributed through the New England and Middle States, and its character is established in the market as having no superior in quality.

PLACE OF SHIPMENT—Pier No, 3, Greenwich Wharves, Delaware River.

OFFICE—No. 230 South Third street, Philadelphia.

EDWARD C. BIDDLE, President.

FRANCIS H. JACKSON, Sec'y and Treas'r. Ap18:6mo.

C. B. LINDERMAN & CO.,

MINERS,

SUGAR LOAF,

LEHIGH COAL.

OFFICE:

50 TRINITY BUILDING,

may23:1y 111 BROADWAY, N. Y.

SAMUEL BONNELL, JR.,

OFFERS FOR SALE HIS

SUGAR CREEK

AND

HONEY BROOK

LEHIGH COALS,

OFFICE: 43 and 45 "TRINITY BUILDING," 111 BROADWAY,

New York.

IRON DEALERS.

LOVER LEAF PLANE IRONS.

MANUFACTURED EXCLUSIVELY BY US, UNDER

REYNOLDS' PATENTS

for tempering steel, possesses the following superior qualities:

1. They are tempered the same in the centre as at the edges.
2. They hold a fine cutlery temper until the iron is worn out.
3. There are no soft spots in them.
4. One of these Irons will outwear four to five Irons tempered the old way.
5. They are sold at the same price of other Irons.
6. Every Iron is warranted to possess the above qualities or no sale.

We hereby authorize all Hardware Dealers to allow their customers to try our Irons, and if not perfectly satisfactory, refund price paid and charge Irons back to us.

Every PLANE IRON made by us bears our

CLOVER LEAF TRADE MARK

REYNOLDS, BARBER & CO.,

STEEL TEMPERING WORKS,

mar21-3m-eow Auburn, N. Y.

SLATE DEALERS.

HUDSON RIVER SLATE COMPANY,

25 PARK ROW, NEW YORK,

Supply from their Quarries

SUPERIOR BLUE SLATE,

IN

ASHLER BUILDING FRONTS,	MANTLES & MANTLE STOCK.
HOUSE TILES, of all sizes,	SLABS of any dimensions,
FLAGGING TILES, of any large size,	HEARTHS, of all sizes,
PLAIN FLAGGING of any thickness,	SLATE DUST,
CURBING, plain and fancy,	BILLIARD BEDS,
COUNTERS & COUNTER TOPS,	SILLS and LINTELS,
WAINSCOTING & PANELING SLABS for MARBLEIZING, of any size ordered,	SINKS,
	CEMENTERY STOCK,
	SLAB ROOFING.

Any Articles Marbleized to Order in the Most Superior Style.

☞ All orders and communications should be addressed to

ABRAHAM BELL'S SON,

Nov 23,qx.m 25 Park Row, New York.

JOHN GALT,

WHOLESALE DEALER IN ROOFING SLATE.

SOLE AGENT FOR THE

EAGLE SLATE COMPANY OF VERMONT,

Who produce Purple, Green and Red ROOFING SLATE. Sole Agent for New York and the West for the

CHAPMAN SLATE COMPANY OF PENNSYLVANIA,

Who produce a Superior Black or Dark Blue Slate; also Sole Agent for New York and the West for the

LEHIGH SLATE COMPANY OF PENNSYLVANIA.

GENERAL DEPOT,

Cor. Tenth Avenue and Twelfth Street, N. Y. City.

Established in 1850.

BRANCH DEPOTS:

Buffalo: Jas. W. Chapman, Terrace Square.

Chicago: James Parker, corner Franklin and Washington Streets.

Charleston, S. C.: C. J. Deporest, East Bay, near Wentworth Street.

New Orleans: J. J. Lee, 368 Magazine Street.

☞ I am prepared to give parties the prices of Slate delivered throughout the United States at the Railroad Station.

Orders by mail will receive prompt attention. jan1:1y

MACHINERY, &c.

COPPER SMELTER WANTED.—A practical Copper Smelter, experienced in making Copper Regulus from Ore, with wood fuel, is wanted for a California mine. One that thoroughly understands his business may apply with references, to Box No. 653 Boston Post Office.

may16:3t:is

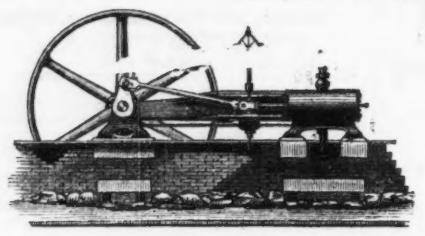
MACHINERY.

SOUTH BROOKLYN

Steam Engine and Boiler Works,

ON IMLAY, SUMMIT AND VAN BRUNT STREETS, BROOKLYN, N. Y

D. McLEOD, Proprietor



Manufactory of the

"Babcock & Wilcox Patent Steam Engines,"

high and low pressure, for Stationary and Marine purposes, up to the largest class. Orders for the above Engines, and for BOILERS, IRON and BRASS CASTINGS, COPPERSMITH WORK, FORGINGS and HEAVY MACHINERY of all descriptions (for which this establishment has unsurpassed facilities), executes promptly, at moderate prices.

The BABCOCK & WILCOX Patent Engines combine the simplest and most durable Valve Gear, the greatest range of cut off, perfect regularity of speed and the highest economy of fuel. The cylinders are jacketed with live steam, and all the parts are designed and constructed with reference to the greatest durability and smoothness of action. They are daily gaining in popularity, and are superseding the best cut-off Engines heretofore built, with a saving of from twenty-five to forty per cent. in fuel.

Send for circulars, containing full description. Address

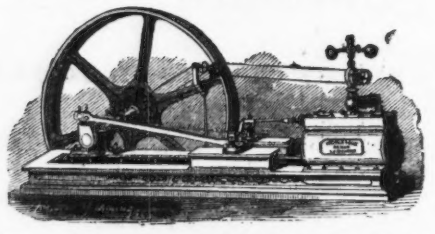
D. McLEOD, Box 2993 New York P. O.,

doc27.67:1y Or at the Works in Brooklyn

TODD & RAFFERTY,

GENERAL

Machinery Merchants, Engineers and Machinists.



Manufacturers of Stationary and Portable Steam Engines and Boilers; also Flax, Hemp, Tow, Oakum, and

ROPE MACHINERY, MILL GEARING, SHAFTING,

Lathes, Planers, Drills, Chucks, &c., Iron and Brass Castings. Judson's & Snow's Patent Governors constantly on hand.

OFFICE AND WAREROOMS, NO. 4 DEY ST, N. Y.

Office and Works, Paterson, N. J.

JOSEPH C. TODD, ap27:1y PHILIP RAFFERTY.

PORTABLE AND STATIONARY

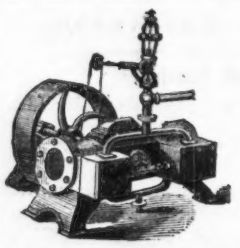
STEAM ENGINES.

Boilers, Circular Saw Mills, Mill Work, Cotton Gins, Cotton Gin Materials,

Manufactured by the

ALBERTSON & DOUGLASS MACHINE COMPANY,

NEW LONDON, CONN. mar16:1y



ALL IN SEARCH OF ENGINES SHOULD EXAMINE

"THE RUDDICK,"

The most compact, simplest and

CHEAPEST

in the world.

DEVEREUX, THOMPSON & CO.

82 Cedar Street, N Y.,

OR

A. F. DEVEREUX & Co, Boston,

Sole Manufacturers.

nov29:1y

No Experiment. Old approved methods in all its parts.

THE WATSON MANUFACTURING COMPANY.

RAILROAD AVENUE, OPPOSITE ERIE RAILWAY STATION,

MACHINISTS AND MILLWRIGHTS,

PATERSON, N. J.

Water Wheels, Heavy Gearing, Shafting, Pullies, etc

ALSO, PORTABLE ENGINES.

And all kinds of Machinery for Oil Wheels, etc.

Rolling Mills, Steam Engines, Hydraulic and other Presses,

LATHES, PLANING AND SCREWING MACHINES,

And Tools in general. Iron and Brass Castings, of all sizes and descriptions Patterns made to order. Also, manufacturers of the

Improved Turbine Water Wheel.

oct.12. 67-1 r.

PORTABLE STEAM ENGINES,

COMBINING THE MAXIMUM OF

EFFICIENCY, DURABILITY AND ECONOMY,

with the minimum of weight and price. They are widely and favorably known, more than SIX HUNDRED being in use. All warranted satisfactory, or no sale Descriptive circulars sent on application. Address

may10-67:6m J. C. HOADLEY & Co., Lawrence, Mass.

THE NOVELTY IRON WORKS.

Foot East 12th, 13th and 14th Streets.

BRANCH OFFICE.....79 Liberty street

MANUFACTURE

Steam Engines and Boilers,

Cotton, Sugar and Rice Machinery

of the most improved kinds And kinds of

Brass and Copper Work,

Indicators, Clocks, Steam Gauges,

Gauge Cocks, &c.

Large stock of patterns of SPUR, BEVEL and MITRE WHEELS, PULLIES, and all sorts of MILL WORK feb1-1y

MISCELLANEOUS.

STEPHEN J. GEOGHEGAN & CO.

(Successors to Cameron & Geoghegan,)

199 & 201 Centre Street, N.Y.,

Adjoining Earle's Hotel.

MANUFACTURERS AND DEALERS IN

Wrought and Cast Iron Steam Pipes, Valves, Cocks, Fittings, &c.

FOR STEAM, WATER, AND GAS.

Also,

High and Low Pressure Steam Heating Apparatus applied to

FACTORIES, PUBLIC BUILDINGS, STORES AND DWELLINGS.

Manufacturers and Sole Agents for

STORER'S PATENT LUBRICATORS,

for supplying lubricating matter in bulk to the cylinders of Marine and Stationery Steam Engines, Steam Pumps, Heaters, Steam Traps, Pipe Tongs, Pipes, Vices, Stocks and Dyes, &c., &c.

We make Steam and Gas Fitter's tools a speciality.

Coils for Breweries, Distilleries, Soap Factories, &c., &c

STEAM PUMPS.

Send for Illustrated Circular. f:17-1y

SUBSCRIBE FOR AND ADVERTISE IN THE

AMERICAN JOURNAL OF MINING,

THE BEST AND LARGEST PAPER OF THE KIND IN THE UNITED STATES, NOW IN ITS THIRD YEAR.

The AMERICAN JOURNAL OF MINING is the only paper in the United States that represents *all* the various mining interests of the country in a complete, satisfactory, and trustworthy manner. It should therefore be in the hands of *every one* who desires to be informed upon, and hence able to profit by a knowledge of the subjects of which it treats, viz.: our vast mineral resources, and the best methods, direct and indirect, by means of which they may become an unfailing source of individual and national wealth.

Published every Saturday in New York City. Only $4 a year.

SPECIAL AGENTS AUTHORIZED TO RECEIVE SUBSCRIPTIONS AND ADVERTISEMENTS.

MASSACHUSETTS.—M. A. LATHROP & BRO. 11 Court street, Boston.
MICHIGAN.—J. W. CROZER, Ontonagon.
MONTANA.—WILLIAM Y. LOVELL, Virginia City.
NEVADA.—J. D. EMERSLEY, Austin.
COLORADO.—GEO. TRITCH, Denver City.
CALIFORNIA.—W. E. LOOMIS, San Francisco.
PENNSYLVANIA.—T. R CALLENDER, cor. 3rd and Walnut streets, Philadelphia, W. H. DAVIS, Easton, Pa.
ENGLAND.—FREDERICK ALGAR, 11 Clements Lane, Lombard street, London.
MEXICO.—JAMES SULLIVAN, City of Mexico, JUAN CARREDANO, Vera Cruz, JACINTO QUIROS, Acapulco.
SOUTH AMERICA.—COLVILLE DAWSON & Co., 271 Calle de la Union, Lima, Peru. M. NAVARRO DE VILLALBA, Rio de Janeiro, Brazil, LUCIEN BIJO, Buenos Ayres, Argentine Republic.
CUBA.—THOS. W. WILSON, Havana.

Mr. T. P. PEMBERTON is editor of the Mechanical Department and agent for the AMERICAN JOURNAL OF MINING.

DEALERS AGENTS.

THE AMERICAN NEWS COMPANY, 121 Nassau street, N. Y
THE NEW YORK NEWS CO., 10 Spruce street, N. Y.

WALTONS & LEONARD,

MACHINISTS' AND RAILROAD SUPPLIES,

METALS, TOOLS AND HARDWARE,

No. 58 John Street, New York.

AGENTS FOR THE SALE OF

American Bolt Co.'s Bolt, Nut Washers, &c.
Sturtevant, Pressure Blowers, Taft's Smith's Shears,
Packer's and Walworth's Ratchets, Harrington's Patent Tuyere,
Patent Differential Pulleys, Green Works, Patent Wrenches,
Dudgeon's Patent Hydraulic Jacks and Tube Expanders,
Dixon's Crucibles, Wellington Mills Emery and Emery Cloth,
Iron Pulley, Blocks, Twist Drills, Portable Forges, &c.

AND A LARGE ASSORTMENT OF

Stub's Tools and Files and Supplies for Railroads, Engineers, Manufacturers and Machinists.

W. M. WALTON. JOS. J. WALTON. O. W LEONARD
dec12:1y

FRANK B. POLLEY & CO.,

ENGINEERS AND MACHINISTS,

277 & 279 First street, Brooklyn, New York.

Manufacturer of

HIGH AND LOW PRESSURE STEAM ENGINES,

PORTABLE AND HOISTING ENGINES,

Also,

ROSS PATENT BURR STONE GRINDING MILL.

FRANK B. POLLEY. EDWD. W. CLARKSON,

Send for Circular. jan2:1y.q

CLINTON IRON FOUNDRY,

502 and 504 WATER, and 239 and 241 CHERRY STREETS,

Between Pike and Rutgers Slips, New York.

LEADER PIPES,
PULLYS, HANGERS,
GRATE BARS,
MACHINERY PATTERNS of all kinds,
Also,

LOAM AND DRY SAND CASTINGS

of every description, for mining purposes, made to order at the shortest notice and on reasonable terms.

W. McKINLEY. oct 26-6m R SMACK.

ATLANTIC

STEAM ENGINE WORKS,

IRON AND BRASS FOUNDERS.

MANUFACTURERS OF

Steam Engines, Boilers, Sugar Mills, Tanks, Linseed and Cotton seed Oil Presses, and Machinery used in the Arts and Manufactures.

CORNER WATER AND ADAMS STREETS, BROOKLYN, N. Y.

R. B. DUYCKINCK, Treas. jan13:1y **WM. ARTHUR, Pres.**

BULLARD & PARSONS,

HARTFORD, CONN.,

Manufacturers of

IMPROVED UPRIGHT DRILLS,

with friction feed. This tool can be used with equal facility for light drilling or heavy boring—is particularly adapted to railroad, locomotive, steam engine, and general machine shops. We also make first class Shafting, and Mill Work, from a great variety of new and improved patterns. We furnish with our shafting, patent self-oiling boxes and friction couplings. Special machinery to order. Send for cut and price list July 6ap a. 6t.

ATTENTION ENGINEERS, MINERS, QUARRYMEN. LAMSON'S PATENT STONE CHANNELING MACHINE, for quarrying Marble, Slate, Limestone, Sandstone, and other rocks: does the work of 75 to 100 men per day. Can be seen in the quarries at Rutland, Vt., or at the Company's works.

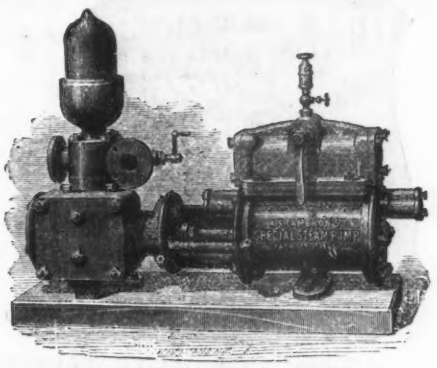
CASE'S PATENT DIAMOND ROCK DRILL; is pointed with black diamonds; is adjusted and operated by one man; bores in any direction, or under water; bores in Marble 8 inches, in Granite 5 inches, in Quartz 3 inches, in Talc 6 inches per minute. One drill-head has bored over 2,000 feet without repair, and is still perfect. Address THE WINDSOR M'F'G CO., Windsor, Vt. Arrangements made for manufacturing any new Patent Machines. ap18-6m

INCRUSTATION OF STEAM BOILERS PREVENTED by WINANS' BOILER POWDER, 11 Wall street, New York

T. S. Poer & Co., Benham, Texas, say: "We were burning *two* cords of wood daily; put in a dose of Winans' Powder, and found less fuel necessary each day, until at the end of the week we used less than *one* cord per day, and had better steam than formerly. This may seem incredible to those who have not used these Powders, but we are willing to make oath to the fact. We would not be without the article for ten times its value." mar.21 :6f.

STEAM PUMPS.

STEAM PUMPS IN EVERY POSSIBLE VARIETY.



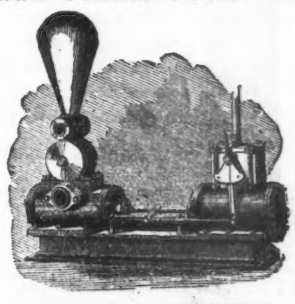
A. S. CAMERON & CO.,

22ND STREET, CORNER OF 2ND AVENUE, N. Y.

feb22 6m

NIAGARA STEAM PUMP WORKS

First Premium AT FAIR. American Institute. 1867.



HARDICK BROTHERS,

SUCCESSORS TO

CAMPBELL & HARDICK, BROTHERS,

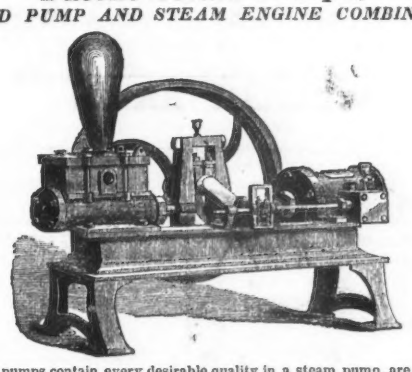
No. 9 ADAMS STREET, BROOKLYN, N. Y.

Send for circular. f13-6m

J. CLAYTON'S

Patent Steam Pumps,

HAND PUMP AND STEAM ENGINE COMBINED.



These pumps contain every desirable quality in a steam pump, are made of the best material, and in the best manner, and are the cheapest first-class pumps in the market. For cut and description see JOURNAL OF MINING, No. 18, Vol. I. Please send for circular.

All sizes of pumps made to order at the shortest notice.

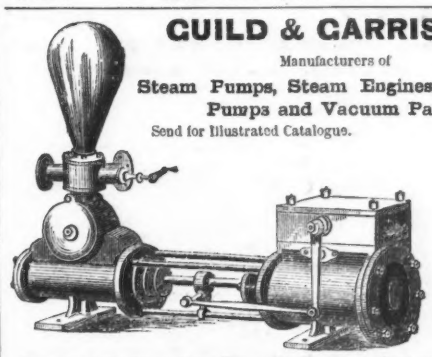
nov18-tf JAMES CLAYTON, 102 Front street, Brooklyn, N. Y.

CUILD & CARRISON,'

Manufacturers of

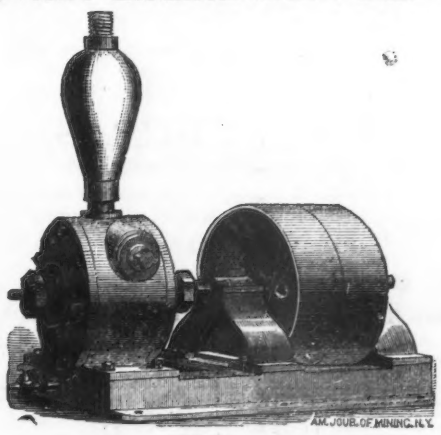
Steam Pumps, Steam Engines, Vacuum Pumps and Vacuum Pans.

Send for Illustrated Catalogue.



For sale at the STEAM PUMP WORKS, 26, 28 and 30 First street, Williamsburgh, N. Y. jan1-6m

ROTARY ENGINE AND PUMP Co.



METROPOLITAN PATENT

The neat and most effective Steam and Belt Pump adapted for general use. Warranted to form a vacuum of 28 inches. Mine owners should call and examine it as a MINING PUMP.

Offices of the Company, No. 181 PEARL STREET, Room 10, and No. 14 Second Avenue. Send for Circular. june18-1y

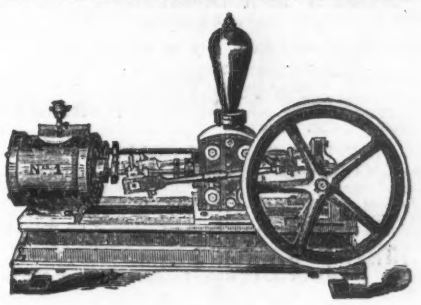
STEAM PUMPS.

THE WOODWARD

STEAM PUMP MANUFACTURING COMPANY,

MANUFACTURERS OF THE

WOODWARD PATENT IMPROVED SAFETY



STEAM PUMP AND FIRE ENGINE.

STEAM, WATER, AND GAS FITTINGS OF ALL KINDS.

Also, dealers in WROUGHT IRON PIPE, BOILER TUBES, etc. Hotels Churches, Factories and Public Buildings, Heated by Steam, Low Pressure.

Woodward Building, 76 and 78 Centre street, corner of Worth street, New York. Formerly of 77 Beekman street.

m14:1v GEO. M. WOODWARD, President.

HYDRAULIC WORKS,

MANUFACTORY,

BROOKLYN, N. Y

Steam Pumping Engines, Single and Duplex, Worthington's Patent, for all purposes, such as Water Works Engines, Condensing or Non-condensing: Air and Circulating Pumps, for Marine Engines; Blowing Engines; Vacuum Pumps Stationary and Portable Steam Fire Engines Boiler Feed Pumps, Wrecking Pumps

Mining Pumps,

Water Meters, Oil Meters; Water Pressure Engines; Stamp Mills for Gold, Silver and Copper Ore; Eaton's Patent Amalgamators for Gold and Silver Steam and Gas Pipe, Valves, Fittings, &c.; Iron and Brass Castings.

Send for Circular. H. R. WORTHINGTON,

Feb1:1y 61 Beekman street, New York.

THE

POSITIVE STEAM PUMP,

WILLIAM HARSEN,

PATENTEE AND MANUFACTURER, GREENPOINT, L. I.

Costs one-third less than any other First-Class Pump of the same Capacity.

Send for Circular to

J. W. COLE,

MANUFACTURER'S AGENT, at CARR'S, 45 Courtland Street,

nov2 1y q

IVES' PATENT LAMPS,

Give a better and cheaper light than GAS, can be lighted, filled, and trimmed without removing shade, globe or chimney, or unscrewing the burner. We make a specialty of furnishing

SAFE STATIONARY LIGHTS

(in place of those that are movable and dangerous)

AND

PURE, NON-EXPLOSIVE OIL,

In place of Lad, unsafe Kerosene commonly used.

Every barrel received from us, with our brand on the head, can be relied on as

PERFECTLY SAFE.

Present price (in barrels), 16 cents per gallon.

Shipped in "hermetically tight" barrels of 44 to 48 gallons, ONLY on receipt of

CASH, WITH THE ORDER.

JULIUS IVES & CO.,

mar7:3m No. 49 Maiden Lane, N. Y.

GUNPOWDER SUPERSEDED.

Explosions and accidents from this time counted among the things that were Quarrymen and miners, hunters and soldiers use only

NEUMEYER'S PATENT SAFETY POWDER.

Now in universal use for blasting and mining purposes in England, France and Germany. You can handle and ship this powder with no more danger than you handle oil, sulphur, or charcoal. To explode it has to be confined and ignited by means of a fuse. One feature that specially recommends its use in mines and confined places is that very little smoke results from its combustion, and this smoke is very light, and not at all injurious to the lungs.

NEUMEYER & NIESE, ST. LOUIS, MO,

Are the Patentees and sole manufacturers for the United States. One general agent wanted for each State. For further particulars address.

NEUMEYER & NIESE,

jul;67 67 No. 9 South Third street, St. Louis.

B. KREISCHER,

NEW YORK FIRE BRICK

AND

Staten Island

CLAY RETORT WORKS.

ESTABLISHED 1845.

OFFICE, 58 GOERCK STREET,

CORNER DELANCEY ST., EAST RIVER,

mar28:1y:q **NEW YORK.**

SCOVILL MANUFACTURING COMPANY.

MANUFACTURERS OF

SHEET BRASS, GERMAN SILVER,

PLATED METAL, BRASS BUTT HINGES,

Gilt, Lasting, Brocade and Fancy Dress Buttons, Kerosene Oil Burners, and Lamp Trimmings,

And Importers and Dealers in every description of

PHOTOGRAPHIC GOODS,

No. 4 Beekman street and 36 Park Row, New York.

Manufactory, Waterbury, Ct. mar.21 :6m.

E. & H. T. ANTHONY & CO.,

501 Broadway, New York.

Manufacturers of Photographic Materials and Albums,

EXTENSIVE DEALERS IN AND MANUFACTURERS OF STEREOSCOPES AND VIEWS.

Feb 1.1y

OTIS, BROTHERS & CO.,

SAFETY HOISTING MACHINERY,

feb15:6m 309 BROADWAY, N. Y. CITY.

MISCELLANEOUS.

550 MILES
OF THE
UNION PACIFIC RAILROAD
RUNNING WEST FROM OMAHA
ACROSS THE CONTINENT,
ARE NOW FINISHED.
WHOLE GRAND LINE TO THE PACIFIC
WILL BE COMPLETED IN 1870.

The means provided for construction have proved ample, and there is no lack of funds for the most vigorous prosecution of the enterprise. The Company's FIRST MORTGAGE BONDS, payable PRINCIPAL AND INTEREST, IN GOLD, are now offered at PAR. They pay

SIX PER CENT IN GOLD,

and have thirty years to run before maturing. Subscriptions will be received in New York at the COMPANY'S OFFICE, No. 20 Nassau street, and by JOHN J. CISCO & SON, Bankers, No. 59 Wall street, and by the Company's advertised Agents throughout the United States.

A PAMPHLET AND MAP for 1868, showing the Progress of the Work, Resources for Construction, and Value of Bonds, may be obtained at the Company's Offices or of its advertised Agents, or will be sent free on application.

JOHN J. CISCO, Treasurer, New York.

April 10, 1868. ap.25;6t

BUSH & GANT,

Wholesale and Retail Dealers in

HOUSE FURNISHING GOODS,

BUILDERS' HARDWARE,

WOOD, WILLOW, BRITTANIA AND PLATED WARE.

ALSO,

Universal Patent Wringers, Washing Machines,

PATENT BIRD AND ANIMAL CAGES, METAL TOP CHIMNEYS, AND SHINGLE BRACKETS.

N. D. BUSH,
P. O. Box, 5,969. B. E. GANT.
feb1:tf 429 Sixth Ave. Cor. 26th street.

TERWILLIGER & CO.,

MANUFACTURERS OF THE

IMPROVED TRIPLE FLANGE

Fire and Burglar Proof Safes,

With Combination and Powder-proof locks, warranted free from dampness.

VAULT DOORS AND BANKERS' SAFES

Made to order of our Patent welded Steel and Iron, and sold subject to test.

WARRANTED THE BEST IN THE WORLD.

Please call or send for illustrated catalogue.

TERWILLIGER & CO.,

PRINCIPAL DEPOT, 100 MAIDEN LANE, NEW YORK. feb 223m

M. BOTTICHER'S

PATENT ADJUSTABLE PRESSURE AND VACUUM

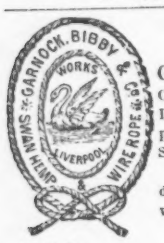
EAGLE GAUGE,

Can be furnished from 10 to 600 pounds pressure. The most simple and reliable Gauge in use.

Every Gauge warranted to give satisfaction. State rights for sale

Address, M. BOTTICHER,
nov 14;1y;q 264 Broad street, cor. Bank, Newark, N. J.

WIRE ROPE.



The Subscribers, agents for

GARNOCK, BIBBY & CO.'S

Celebrated Steel and Charcoal Wire Rope, for Mines, Inclined Planes, Bridges, Derricks, and Hoisting Purposes. Also Galvanized Charcoal and B. B. Rope for Ships' Standing Rigging, Stays, Guys, &c.

A large stock constantly on hand. Orders filled with dispatch. For further particulars as to price, test weight and working strain, apply for Mining Circular to

JOHN W MASON & CO.,
june29:1y 43 Broadway, N. Y

LINDSAY'S PATENT.

The merits of this Wrench are too well known to need comment Go to the nearest hardware store and LOOK AT IT BEFORE PURCHASING ANY OTHER, or send for illustrated circular to

MANVEL & LINDSAY,
oct12;1y New York.

IRON & WOOD WORKING MACHINERY

TURBINE WATER-WHEELS.

LUCIUS W. POND,

No. 98 LIBERTY ST. N. Y., and Worcester, Mass.

nov.2.1y.q

McNAB & HARLIN,

MANUFACTURERS OF

BRASS COCKS,

PLUMBERS' BRASS WORK,

WROUGHT IRON PIPE, FITTINGS, &c.

No. 86 John street, New York. Ap18:6m.

FILE-COVERS. FILE-COVERS.
FILE-COVERS. FILE-COVERS.
FILE-COVERS. FILE-COVERS.

For preserving the numbers of the AMERICAN JOURNAL OF MINING. Price $2. For sale by WESTERN & CO., 37 Park Row, N.Y.

IMPORTANT TO MINERS.

Every description of Analysis and Assays carefully attended to, and returns promptly made, by

WESTERN & COMPANY,
No. 37 Park Row, New York City.

JOHN P. GRUBER'S

182, 184, 186 and 188 Chatham Square, Corner Mott Street, NEW YORK

may16:6m

STAR BRICK MACHINE

The best, strongest and cheapest in the United States. We warrant it to make more and better Bricks than any other Machine now in use. It takes less power and help to run it.

Manufactured and sold by

JAMES MARTIN,

No. 160 Washington street, Jersey City, N. J.
or, J. H. Rennick, Room 28, No. 71 Broadway.
aug3;1y

IRON AND STEEL WIRE ROPE.

MANUFACTURED BY

JOHN A. ROEBLING,

TRENTON, N. J.

FOR

INCLINED PLANES, MINING,
STANDING SHIP RIGGING,
SUSPENSION BRIDGES, FERRIES,
STAYS AND GUYS ON DERRICKS,
CRANES & SHEARS, ELEVATORS,
TILLERS, &c

A large stock of Wire Rope constantly on hand Orders filled with dispatch.
☞ For strength, size and cost see circular, which will be sent on application. nov3:68-tf

---

CIRCULAR SAWS

WITH

EMERSON'S PATENT MOVABLE TEETH.

These saws are meeting with unprecedented success, and their great superiority over every other kind, both as to efficiency and economy is now fully established,

ALSO,

EMERSON'S
PATENT PERFORATED
Circular,
and Long Saws.

(All Gumming avoided.) And

Emerson's Patent Adjustable Swage,

for Spreading, Sharpening, and Shaping the teeth of all Splitting Saws. Price $5. Manufactured by the AMERICAN SAW COMPANY,

Office No. 2 Jacob Street, near Ferry Street, New York.

Send for new Descriptive Pamphlet and Price List 1y4-ps

ARION PIANO-FORTE.—PATENTED.

Pre-eminently the best Piano ever constructed, unrivalled for tone, durability and elegance of finish. The Brooklyn Daily Times says: "It has in higher degree than any Piano that we have met with, the singing quality or character that musicians so much admire and seek for in a Piano; the bass notes reminding you of the deep-toned notes of a large organ. The middle octaves are more elastic and clear than in most other Pianos, while the upper or treble notes possess that pure, distinct, bell-like clearness that is so necessary to the correct rendering of difficult pieces of music, and that also lends such a charm to melody." Professor J. M. Abbott, organist of the Church of Our Saviour, in Brooklyn, says: "For elasticity of touch, for the singing quality so much sought for by artists, and for richness and purity of tone, it is unexcelled by any Piano I have ever used." Professor John W. Henry Canoll, editor of the American Educational Monthly, says: "* * * * Listen, however, to one of another class, for example, one of the Arion Pianos, made by Manner & Co.; bow your head as the bass sends forth its riches, clear and unblurred; observe the singing, swelling melody that in its middle octaves so wondrously represents vocal expression, and which predominates above even the silvery brilliancy of the upper treble; then reflect that this is a scientifically constructed and durable instrument." * * *

Is for sale at the Manufactory and Warerooms, 187 and 189 Bowery, second door above Delancey street. MANNER & CO.

N. B.—We have a number of Second Hand Pianos to sell or rent. 12-v4-qp

---

DUNCAN, SHERMAN & CO.,

BANKERS,

CORNER PINE AND NASSAU STREETS, N. Y.

ISSUE CIRCULAR NOTES AND LETTERS OF CREDIT FOR TRAVELLERS, AVAILABLE IN ALL THE PRINCIPAL CITIES OF THE WORLD,

MERCANTILE CREDITS

For Use in Europe, China, etc. Also Make

Transfers of Money to Europe and Pacific Coast by Telegraph.

feb3;tf INTEREST ALLOWED ON DEPOSITS.

EVANS & GOULD,

PLAIN AND FANCY

BOOKBINDERS & PRINTERS,

117 and 119 Third Avenue,

Northeast corner 14th street, may16:2m NEW YORK.

ROOT'S WROUGHT IRON SECTIONAL

SAFETY BOILER.

Has no large sheet iron shell to explode, is composed entirely of wrought iron tubes tested to 300 pounds, water and steam inside of them, offers

POSITIVE SAFETY FROM DESTRUCTIVE EXPLOSION.

Great economy of fuel over other boilers replaced by it,
DURABILITY,
COMPACTNESS,
SIMPLICITY,
GREAT FACILITY FOR EXAMINATION, CLEANING AND RENEWAL,
FREEDOM FROM SCALE AND CORROSION,
HAS NO JOINTS IN THE FIRE,

Lightness, hence low freights, largest Boilers equal in strength to smallest, as parts are uniform in size and strength, and very light, hence largest boilers can be erected in most inaccessible locations, and transported on mules for

MOUNTAIN AND MINING OPERATIONS.

No special skill required in erection or operation, lower cost for setting an reasonable price. Pamphlets, price lists, &c., mailed. Also,

ROOT'S TRUNK ENGINES,

Hoisting Machinery, Steam Pumps, &c.

JOHN B. ROOT,
ROOT STEAM ENGINE WORKS,
ap4:3m Second avenue, corner 28th street, N. Y.

NEW YORK BELTING AND PACKING COMPANY,

MANUFACTURERS OF

VULCANIZED RUBBER FABRICS,

ADAPTED TO MECHANICAL PURPOSES.

Patent Smooth Belting, (Patented Nov. 22, 1859,) vulcanized between layers of a patent metallic alloy, by which the stretch is entirely taken out, the surface made perfectly smooth, and the substance thoroughly and evenly vulcanized. This is the only process that will make reliable Rubber Belting

Hose never needs oiling, and warranted to stand any required pressure

Steam Packing in every variety, and warranted to stand 300° of heat.

Solid Emery Vulcanite.—Wheels made of this are solid, and resemble stone or iron; will wear out hundreds of the ordinary wheels.

Directions, Prices, etc., can be obtained by mail or otherwise.

15-4 -qp JOHN H. CHEEVER, Treasurer

Warehouse, 37 & 38 Park Row, N. Y.

JOHN WATERS' SONS,

GOLD AND SILVER REFINERS,

AND

ASSAYERS.

ESTABLISHED 1839.

No. 57 VESEY STREET, NEW YORK.

ANALYSES MADE OF ORES, MINERALS, ETC.,

BY FIRE.

Lead and Copper Ores a Specialty.
Miners are assured of careful and accurate assays.
Gold Dust and Bars Purchased. mar9:3m

Montana Mining Agency.

WM. Y. LOVELL. JAS. GOSTLING.

We buy and sell every description of mining property in this Territory, examine and report upon mines, adjust mining accounts, procure U. S. Patents for mining property, examine Titles.

Specimens from any Lode, or Cabinets of the Minerals of this Territory, sent by express to any address.

Charges moderate.

LOVELL & GOSTLING,
ap11:6m Box 200 Virginia City, M. T.

E. S. EARS' WOOD ENGRAVING ESTABLISHMENT.

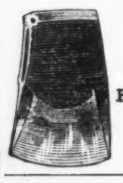
ENGRAVING, DESIGNING AND PHOTOGRAPHING on Wood, in all its branches, viz.: Portraits, Fine Book Work, Machinery, Maps, Buildings, Illustrated Catalogues, Views, &c. N. B special attention given to Color Work of all descriptions. 48 BEEKMAN STREET, New York. aug14;1y

---

THE ANNUAL OF SCIENTIFIC DISCOVERY.
THE ANNUAL OF SCIENTIFIC DISCOVERY.
THE ANNUAL OF SCIENTIFIC DISCOVERY.
THE ANNUAL OF SCIENTIFIC DISCOVERY.

FOR 1868.

For sale by WESTERN & CO. Sent on receipt of price, TWO DOLLARS.



Ten Eyck Axe Manufacturing Co.,

MANUFACTURERS OF WARRANTED

CAST STEEL EXCELSIOR AXES,

Picks, Hatchets, and Mining Tools of all Descriptions.

FACTORY, COHOES, N.Y.

THOMAS E. GAYNOR, Agent,
jan18:6m 57 Beekman street, N. Y.

WATER-PROOF SAFETY FUSE.

Warranted Sure Fire if not Cut in Tamping.

MANUFACTURED BY

UREN, DUNSTONE & BLIGHT,

EAGLE RIVER, KEEWENAW CO., (L. S.) MICHIGAN.

JOBBERS TRY IT! All we ask is A FAIR FIELD AND NO FAVOR. nov10 1y qp

---

T. H. McALLISTER'S

HOUSEHOLD MICROSCOPE.

Magnifying powers from twenty to one hundred diameters (400 to 10,000 times the area), with all the essential parts of a first class instrument.

Price of the microscope with a collection of forty-eight Prepared Objects of Natural History, $10.

T. H. McALLISTER, Optician,
May2 No. 49 Nassau street, New York.

NEW AGENCY.—MESSRS. M. A. LATHROP & BRO. have been appointed our sole agents in the New England States for the AMERICAN JOURNAL OF MINING and our new Spanish paper EL CORREO HISPANO-AMERICANO. Their address is 11 Court street, Boston, Mass., where all information respecting communications, subscriptions and advertisements for these papers will be gladly given to those who may wish to favor us with their patronage.

PLATINUM APPARATUS, SHEET, WIRE, etc., for all Laboratory and Manufacturing purposes. Platinum scrap and ore purchased. H. M. RAYNOR,
Office, No. 748 Broadway, N. Y.

PUBLICATIONS.

THE NEW YORK EXPRESS FOR 1868,

And Campaign Weekly Express.

SEND FOR SPECIMEN COPY AND PROSPECTUS.

To the Friends of the N. Y. Express:

We solicit from our friends, personal and political, a continued interest in the EXPRESS and its respective publications—Daily, Semi-Weekly, and Weekly. It is nearly thirty-one years since the DAILY EXPRESS commenced in this city with its present proprietors, and in all that time it has been earnestly devoted to the Union and Equality of the States, the rights of the people, a Constitutional Government, the maintenance of Law and Order, the Diffusion of Knowledge, and to,whatever would secure the greatest good to the greatest number of people. Our Platform is the same to-day on all these points of National interest as in 1836, and through all Administrations, from that time to the present. Nor is it likely that time will change it while we live and the Government endures, inasmuch as we believe in what is tried and good, rather in that which is vacillating and revolutionary.

To that portion of the people, therefore, who believe in a stable government, good men, good laws, and equal and exact justice, we shall continue to appeal for that measure of public favor which is due to the principles we avow.

The year 1868 will be the most important in the history of the Government. It will test the right of the white race to rule the country, and whether the American people have the power to resist the purposes of a Jacobin and lawless Congress to give the negro supreme control over nearly one-third of the States and millions of people. This issue is to be decided at the Presidential election in 1868, and we invoke the aid of all who believe in the Government of the Fathers and in the supremacy of the white race.

The EXPRESS we shall aim to make more and more, in all its departments, a thorough-National and Local Newspaper—a Home Journal for the Family—a Political Newspaper for the Politician—a Financial and Business Journal for the Banker and man of business. For the rest, in the future, as in the past, the EXPRESS must speak for itself.

The EVENING EXPRESS having the largest circulation of any established evening paper in the State or City, is especially worthy of the attention of all classes of advertisers in their respective departments of trade.

TERMS:

THE EVENING EXPRESS.

Single Copy	4 cents
City Subscribers, served by Carriers	24 cts. per week
Mail Subscribers, one year	$9 50
Six Months	5 00
Price to Newsdealers	$3 per 100

THE SEMI-WEEKLY EXPRESS.

One Copy, one year (104 issues)	$4 00
Six Months	2 00
Two Copies, one year	7 00
Five Copies, one year	15 00
Ten Copies, one year	28 00
Twenty-five Copies, to one address	50 00

An extra copy will be sent to any person who sends us a club of ten or over.

WEEKLY EXPRESS.

One Copy, one year (52 issues)	$2 00
Six Months	1 25
Three Copies, one year	5 00
Five Copies, one year	8 00
Ten Copies, one year	15 00
Fifty Copies, to one address	50 00

An extra copy will be sent to any person who sends us a club of ten or over.

To clergymen the WEEKLY will be sent for $1 50 per annum.

Four editions of the EVENING EXPRESS are published, 1:30, 2:30, 3:30, and 5 o'clock.

With the Latest, Political, Commercial and Marine News.

The Latest Law Reports, and with the very latest news from the adjoining Cities, States, and all the States of the Union.

Also, a complete daily record of Stocks, and the Money Market to the last hour.

We particularly call the attention of Farmers and Merchants, in all parts of the country, to our Local Market and Business Reports, which are now very complete.

The Semi-Weekly and Weekly Editions will have all the news of the week up to the hour of going to press.

We have also made arrangements to club the EXPRESS with the AMERICAN AGRICULTURIST, a monthly paper devoted to Agriculture; THE RIVERSIDE MAGAZINE, for Young Folks; THE PHRENOLOGICAL JOURNAL, and the PEOPLE'S MAGAZINE, thus offering to our subscribers a great variety of choice reading at very favorable terms.

☞ Remit by draft, Post-Office Money Order or Registered Letter, otherwise we cannot be responsible.

Subscribers are in all cases requested to send to the office direct. We have no agents, and none should be waited for—to call.

Specimen copies sent free upon application, and as many as may be wanted.

READ—SUBSCRIBE—CIRCULATE.

PRESIDENTIAL CAMPAIGN, 1868.

The importance of the crisis of 1868 to the saving of the Government of our fathers—the re-establishment of the Constitution and restoration of the Union, and the necessity of a more healthful and steady business to the people, demands of all Democrats and conservative citizens and people in the country, some efforts to counteract the immense exertions of those who are using the spoils of office and fortunes acquired by war, to maintain the present disorganized state of the country. In view of the present exigency of public affairs, and in order to spread political information as widely as possible, and at the mere cost of paper, during the coming campaign, at the solicitation of friends in the State and country, we now offer the following premiums to agents:

Clubs of 25 Weeklies at $1 per c		$5
" 50 "	"	10
" 100 "	"	20
" 15 Semi-Weeklies at $2		5
" 25 "	"	10
" 50 "	"	20
" 5 Dailies at $9 50		8
" 10 "	"	10

These premiums will be paid for all clubs sent us from this date until May 1st. We hope at least to add ten thousand to our list of weekly subscribers between this time and the Democratic nomination on the 4th of July.

ap.18:3m J. & E. BROOKS, Proprietors.

THE PROTESTANT CHURCHMAN,

A Religious Family Paper,

THE LEADING EVANGELICAL ORGAN IN THE

PROTESTANT EPISCOPAL CHURCH.

Devoted to the advocacy of Evangelical Truth against Ritualism and Rational ism; the defence of the "Liberty of Preaching," and the cultivation of fraternal relations with Evangelical churches.

Editors: Rev. Messrs. John Cotton Smith, D.D., Marshall B. Smith, and Stephen H. Tyng, Jr.

The Editors are assisted by a large corps of clerical and lay contributors in all parts of the United States, in England, and on the Continent.

Published every Thursday at No. 633 Broadway, New York.

TERMS: Four Dollars per annum; to clergymen, three dollars; to theological students and missionaries, two dollars. Club rates, five copies to one address, fifteen dollars; twenty copies, fifty dollars.

☞ Spec.men copies furnished. Address,

THE PROTESTANT CHURCHMAN,

Ap.18:6m Box 6,009 P. O., N. Y.

THE CHURCH UNION.

"The Freest Organ of Thought in the World."

☞ The largest Religious Paper in the World, averaging Nine columns of read ing matter each week more than any other competitor.

It aims to *lead* public opinion upon all subjects, and to represent or echo the sentiments of no party or sect. Edited by seven editors, from seven different de nominations, whose names are not known even to each other.

☞ Terms, per year, - - - - - - - - - $2 50

☞ Terms to Agents (for each subscriber) - - - - $1 00

PREMIUMS.

A SEWING-MACHINE, worth $55, for twenty-five subscribers and $62 50. Agents may choose their machines.

WEBSTER'S DICTIONARY, for $25 and ten names.

"ECCE ECCLESIA," for two names.

A GOLD WATCH, American Watch Co., worth $125, for eighty-five names. Silver Watch, for twenty names; Silver Watch for fifteen names.

TEN BOTTLES WOODWORTH'S VIOLET INK, for ten subscribers and $25.

☞ THE CHURCH UNION is the only paper that publishes Henry Ward Beecher's Sermons, which it does each week, publishing the morning or evening Sermon of the Sunday preceding.

Send for a specimen copy, enclosing ten cents. Address,

HENRY E. CHILD, Publisher,

Ap18 3m 9 Beekman street, New York City.

METALLURGY.

WILSON'S PATENT

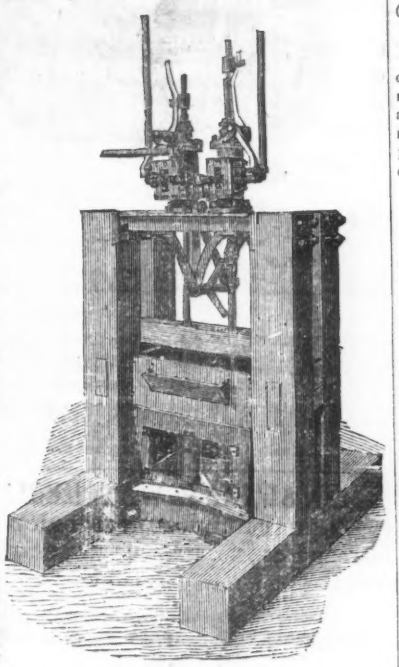
STEAM STAMP-MILL COMPANY,

OF PHILADELPHIA, PA.,

Are now prepared to supply Miners and other parties with their

NEW STEAM STAMP MILLS,

AT THE SHORTEST NOTICE.



These Mills, for durability, efficiency, and facility of transportation are not excelled by, and are believed to be superior to, any other Mills manufactured. The Valve Gear is of the simplest and most durable construction; readily adjusted by moveable cams on the Piston Rods or Stamp Stems, there by giving the operator absolute control of the length, and velocity of motion and force of the blow. These mills are adapted for both dry and wet crushing, and for the hardest rock or softest cement. For full particulars call on or address

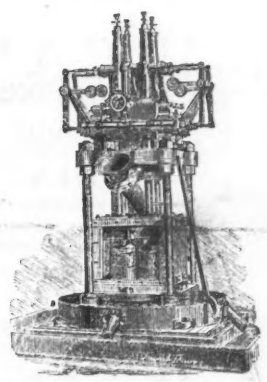
WILSON'S PATENT STEAM STAMP MILL CO., 326 Walnut St., Philadelphia, Penn.

N. B—One of the above Mills can be seen in operation at Messrs. Cresson & Smith's Machine Works, S. E. corner Eighteenth and Hamilton Sts., Philadelphia. jan11:1y

---

NEW YORK STEAM ENGINE COMPANY,

Manufacturers of



STEAM STAMPING MILL,

STATIONARY AND PORTABLE ENGINES,

Engine Lathes, Planers, Bolt Cutters, Upright Drills, and Machinist's Tools of all Descriptions.

OFFICE AND WAREROOMS, 126 & 128 CHAMBERS ST., N Y feb13:3m

THE WHELPLEY AND STORER METHOD

OF USING

PULVERIZED FUEL.

The undersigned offers for sale Rights and Machinery for employing this method, by which the Slack and Waste Coals are utilized, and made equal to solid coal, and a vastly increased efficiency obtained for all kinds of Fuel in the generation of Steam, in the heating of Furnaces, and in Metallurgic Processes.

Also,

MILLS AND FURNACE RIGHTS,

for working the Ores of Copper, Gold, Silver, Zinc, etc., according to the processes designed and employed by Messrs. W. & S.

JACOB J. STORER,

jan25:3m 105 State street, Boston.

LABORATORY OF INDUSTRIAL CHEMISTRY.

DIRECTED BY

PROF. H. DUSSAUCE, Chemist.

Advices and consultationson chemistry, applied to arts and manufactures, agriculture, metallurgy, etc.; plans of factories, drawings of apparatus. He can furnish the most recent improvements in chemical fabrications, such as chemical products, petroleum soaps, candles, colors of lead and zinc, varnishes ceramic glass, wines, liquors, vinegars, matches, inks, dyeing and calico printing, perfumery, colors of coal tar, tanning, etc., etc.

He will give all necessary information to exhibitors to the great Exhibition Address New Lebanon, Columbia Co., N. Y. 8.4.qp

---

DAVID COGHLAN

MINING ENGINEER,

SCRANTON, PA.

Would undertake to inspect or manage Gold or Silver Mines. Has had a large experience in directing mining concerns and metallurgic works, and has been employed for the last year and a half as Mining and Civil Engineer under some of the principal companies of the Anthracite regions of Pennsylvania, to whom references can be given, as well as to parties of the highest respectability in New York City. jan 18:1y

---

BENJAMIN SMITH LYMAN,

MINING ENGINEER,

GEOLOGIST AND TOPOGRAPHER,

No. 135 South Fifth Street, Philadelphia.

WM. M. GABB, late member of the Geological Survey of California, offers his professional services to the mining public, especially in connection with Gold and Silver mining. No. 138 Walnut street, Philadelphia. ap4:tf

METALLURGY.

KUSTEL'S NEW WORK.—A TREATISE ON THE

CONCENTRATION OF ALL KINDS OF ORES,

INCLUDING THE

CHLORINATION PROCESS FOR GOLD-BEARING SULPHURETS, &c.,

BY GUIDO KUSTEL,

(Mining Engineer and Metallurgist, author of "Nevada and California Processes of Silver and Gold Extraction.")

This great work should be in the hands of every mining engineer in the country. It is the only manual in the language containing the latest improvements which Science has made in the important department of concentration, and a full and detailed account of the celebrated and successful Plattner chlorination process. Both parts of the book are illustrated with diagrams and plates, so that every intelligent engineer can erect apparatus or make working drawings for himself.

PRICE TEN DOLLARS.

FOR SALE BY

WESTERN & COMPANY,

(Sole Agents for the Atlantic States, at the office of the AMERICAN JOURNAL OF MINING. feb22 tf

---

PROFESSOR HENRY WURTZ,

Formerly Chemical Examiner in the U. S. Patent Office, may be employed professionally as a SCIENTIFIC EXPERT. Geological Examinations and Reports, Analyses and Assays, etc., etc. Practical Advice and Investigations in the CHEMICAL ARTS and MANUFACTURES. Invention and Examination of new chemical methods and products. Address 26 Pine street, Rooms 35 and 36. Always in from 12 to 3.

☞ Written communications preferred.

Important to Gold and Silver Miners and Companies

PROFESSOR WURTZ,

Who is the Inventor and Patentee of the new and wonderful uses of SODIUM IN WORKING GOLD AND SILVER ORE AND JEWELERS' SWEEPINGS.

Will furnish at the above address information relating thereto together with experimental packages of

SODIUM AMALGAM.

All preparations and instructions elsewhere obtained are spurious and unreliable.

Working Experiments on Amalgamation of Ores, Etc.

Prof. W. has in operation a large and small Hepburn Pan, for working 1,000 lbs. and 20 lb. charges of material for experimental purposes.

Gold Mills and all kinds of Miners' Machinery selected with care and judgment. 8.4.xm

---

MANHATTAN

METALLURGICAL AND CHEMICAL WORKS,

552 and 554 West Twenty-eighth Street, N. Y.

ASSAYS OF GOLD, SILVER, COPPER AND LEAD ORES.

Special attention given to the Analysis of Ores, Minerals, Clays, Waters, and General Commercial Products of all kinds.

Tests of Gold, silver, and Lead Ores, by smelting, in quantities of One Hundred Pounds to Fifty Tons.

Gold and Silver Ores worked in Parcels of One Hundred Pounds to Fifty Tons, by Amalgamation Process.

Gold Dust, Bars, Old Gold and Silver bought. Jewellers' sweeps worked and refined.

Founders and Metal Workers furnished with Alloys of every description.

Parties requiring plans and specifications for the erection of Smelting Works, can be supplied, and the actual process while working shown.

Plans and specifications furnished for works, and processes for the manufacture of Sulphuric Acid, Soda Ash, and general Chem cal produce.

Superintendents: Mr. CHARLES F. SECOR, formerly of Nevada and California, and MR. WILLIAM WEST, formerly of Swansea, Wales.

For sale, 1 Hepburn & Peterson Pan, and 1 Bogardus Quartz Mill. Inquire at the Manhattan Metallurgical and Chemical Works, 552 and 554 West Twenty-Eighth street.

Parties shipping Ores to these works for treatment must prepay all freight charges.

For engagements and terms, apply at the Works or to

SECOR, SWAN & CO.,

P. O. Box 1412. m30:1y **66 Broadway, New York.**

HUEPEDEN & WOLTERS,

ANALYTICAL CHEMISTS and ASSAYERS.

AND CONSULTING ENGINEERS,

Central City, Colorado.

Examinations of, and Reports on Mineral Lands and Mines, furnished on application. Analyses and Assays of Ores executed with accuracy. Plans and specifications furnished for erection of Smelting Works, Desulphurizing Furnaces, &c., &c. 24:4:tf

---

CHARLES SCHENCK, a resident of Pah-Ranagat Silver Mining District, and County Surveyor of Lincoln county, Nevada, begs leave to inform the mining public, that he is able and ready to give true and valuable information about mining property in this District.

Address CHARLES SCHENCK, M E.,
Hiko, Pahranagat District, Nevada

References—Wm. A. Smith, Esq., 25 and 27 Nassau street.
Prof. Harper, New York, etc. oct12, '67:'68

ADELBERG & RAYMOND,

MINING ENGINEERS AND METALLURGISTS,

90 BROADWAY, N. Y.

Mines, Minera Lands, Machinery and Metallurgical or Chemical Works examined and reported upon. Advice given to miners, chemists and manufacturers. Assays and analyses made. Competent Engineers furnished to companies individuals 5:3:qp

---

R. P. ROTHWELL,

MINING & CIVIL ENGINEER AND METALLURGIST,

From the Imperial School of Mines, Paris, Member of the Geological Society of France, &c.

OFFICE, WILKESBARRE, PA.

Having had a large practical experience in Europe and this country is prepared to examine and report on all kinds of Mineral property, superintend Mines and Metallurgical Works, Assay Ores, &c. 18:2:qp

---

GEO. W. MAYNARD,

PROFESSOR OF MINING and METALLURGY

AT THE RENSSELAER POLYTECHNIC INSTITUTE,

TROY, NEW YORK.

Reports, Consultations, Assays. ☞ Especial attention given to Metallurgical Operations. Jan 18.1y

---

SHEFFIELD SCIENTIFIC SCHOOL

OF YALE COLLEGE,

NEW HAVEN, CONN. INSTITUTED IN 1846,

Practical Chemistry, Metallurgy, Mineralogy, Geology, Mining. Instruction given in Mechanical and Civil Engineering, etc. Circulars sent on application to Prof. D. C. GILMAN, Secretary. Ap.26:6m

Can Gun Cotton be transported safely?

The accidents which occurred at Newcastle and elsewhere, in consequence of the disregard of precautions in the transportation and handling of nitro-glycerine, have created a feeling of distress in the minds of the traffic managers of railway companies in connection with all explosive substances other than gunpowder. According to the *Pall Mall Gazette*, this distrust has now increased to such a degree that permission is frequently withheld for the transmission by railway even of the compressed gun-cotton charges used for blasting purposes, although the regulations which apply to the transport of gunpowder more than suffice to guard against the possibility of serious accident with gun-cotton. With the object of investigating the risks incurred in conveyance of compressed gun-cotton charges by railway, Mr. Wilson, of the goods manager's office, North Eastern Railway in conjunction with Mr. Prentice, the managing director of the Gun-cotton company, has tried a series of experiments, of which the followiug is an abstract: A small box of cotton containing 125 charges, said to be equal in effect as a blasting agent to a quarter cask of gunpowder, was taken into the cricket field. A fuse was inserted and lighted. When the flame reached the gun-cotton there was a great blaze like the burning of a heap of loose straw, but no explosion; in less than half a minute there was no flame except from the burning of the brown paper in which the gun-cotton had been packed inside the box. The box was of wood about half-inch thick, and was nailed, but not bound with iron at the corners; it was one of the ordinary packages used for sending the cotton out. Several charges were then laid on the rails, near the coal depots, and coal waggons were run over them; some of them were ignited, others were not. Some of them were placed so that an engine should pass over them, they were all ignited. Mr. Prentice took an axe and chopped one charge into several pieces, there was no explosion or ignition. Small pieces of gun-cotton placed on the iron rim of a wheel and sharply struck with a hammer exploded, or rather detonated. In all the cases where ignition was produced by concussion, whether of a hammer on iron, or of the wheels of an engine or waggon on the rails, it was very evident that only so much as was actually struck exploded or detonated, the part not struck firing from the explosion, and burning like so much straw or flax. To make sure that they were dealing with the article which produces such an effect when exploded in close confinement, a hole was bored into a large block of hard tough wood, in which Mr. Prentice placed a charge of gun-cotton with a fuse attached to it; he then filled up the hole with broken slate tightly rammed, and fired the fuse. When the gun-cotton exploded the block of wood was shivered to pieces, each piece being blown several yards away. Mr. Wilson says that the results of these experiments convince him that they may safely carry gun-cotton along with other goods in ordinary waggons, adopting the same rules as now apply to the conveyance of cartridges.—*Chemical News*, April 24.

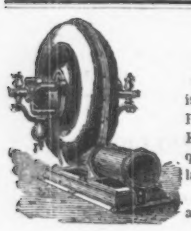
Primitive Climate of the Earth.

The primitive atmosphere of the earth was greatly richer in carbonic acid than the present, and therefore unfit for the respiration of the warm-blooded animals. The agency of plants in purifying this atmosphere was long ago pointed out, and the great deposits of fossil fuel have been derived from the decomposition of this excess of carbonic acid by the ancient vegetation. In this connection the vegetation of former periods presents the phenomenon of tropical plants growing within the polar circle. Prof. T. Sterry Hunt considers as unsatisfactory the ingenious hypotheses proposed to account for the warmer climate of ancient times, and thinks that the true solution of the problem is to be found in the constitution of the early atmosphere, when considered in the light of Dr. Tyndall's researches on radiant heat. He has found that the presence of a few hundredths of carbonic acids gas in the atmosphere, while offering almost no obstacle to the passage of the solar rays, would suffice to prevent almost entirely the loss by radiation of obscure heat, so that the surface of the land, beneath such an atmosphere, would become like a vast orchard house, in which the conditions of climate necessary to a luxuriant vegetation would be extended even to the polar regions.—*Mechanics' Magazine.*

ADVERTISEMENTS.

☞ A limited number of advertisements will be admitted on this page at the rate of 40 cents per line. No extra charge for cuts.

The AMERICAN JOURNAL OF MINING has a larger circulation than any other paper of the kind published in the United States. It goes into the principa cities and towns of every State and Territory in the American Union, as well as in Mexico, the South American States, the West India Islands and Europe.



STURTEVANT'S

NOISELESS PRESSURE BLOWERS

are made of all sizes, for all purposes where blast is required. They embrace two classes, the reguiar Pressure Blowers, for Rolling Mills, large and small Foundries, Forges and Blowpipes, and the second quality or cheap Blowers, for Steam Boilers, Ventilation, Coffee Roasting, &c.

For Circulars with full particulars and price lists, address

B. F. STURTEVANT,
PATENTEE AND SOLE MANUFACTURER,
72 Sudbury street, Boston, Mass.

ap4:12t:os

W. L. WASHBURNE,
MANUFACTURER OF
EMBLEMATIC SIGNS AND WEATHER VANES,
708 BROADWAY, 12 COURTLANDT, and 178 WOOSTER STREETS,
NEW YORK.
je6:3m

EXPOSITION UNIVERSELLE, PARIS, 1867.
WHEELER & WILSON,
625 Broadway, New York.
Awarded, over 82 competitors,
THE HIGHEST PREMIUM,

FOR PERFECTION OF SEWING AND BUTTON-HOLE MACHINES.

DEPARTMENT OF STATE, WASHINGTON, 9th May, 1868.
To WHEELER & WILSON, of New York:
SIRS: The Department has received One Gold Medal, awarded to your firm on Sewing and Button-Hole Machines, at the Paris Universal Exposition of 1867.
Your obedient servant,
WILLIAM H. SEWARD.

Messrs. WHEELER & WILSON, 625 Broadway, N. Y., received the GOLD MEDAL and THE ONLY ONE awarded for the most perfect Sewing Machine and Button-Hole Machine exhibited at the Paris Universal Exposition.
J. C. DERBY, U. S. General Agent for the Exposition.

The only Gold Medal for the manufacture and perfection of Sewing Machines and Button-Hole Machines was awarded to Messrs. Wheeler & Wilson, of New York.
HENRY F. Q. D'ALIGNY,
Member of International Jury and Reporter of the same.

WALTHAM WATCHES!
GREAT REDUCTION IN PRICE.
HOWARD & CO., NO. 619 BROADWAY, NEW YORK.

Silver Hunting Watches	$18
Gold Hunting Watches, 18 carat cases	80
Gold Hunting Watches, Ladies' size	70

Sent at these prices by Express, "C. O. D." to all parts of the country, with privilege to examine before paying. Each Watch warranted by special certificate from the American Watch Co. Any one desiring a reliable timekeeper is requested to write for our descriptive price list. Address, in full,
HOWARD & CO., No. 619 Broadway, New York.
je6:4t

VERY VALUABLE GOLD MINE FOR SALE
AT AUCTION.

WILL be sold by virtue of authority vested in the undersigned, at the Exchange Sales Room in the City of Baltimore,
On Tuesday, the 23d day of June, 1868,
at one o'clock, P. M., all the property of the
BALTIMORE AND MONTGOMERY MINING COMPANY,
better known as the "STEELE GOLD MINE," on the Uharie river, in Montgomery county, *North Carolina*, containing about
700 ACRES OF LAND,
with all its equipments, consisting of two Steam Engines—one of 10 horse power, and the other of 25 horse power; Pumps; two round Buddles, 16 feet diameter; three Washers with Rocker and Sluice Boxes; buildings for Office, Store and Superintendent; a large Boarding House, Barn, Stables, Blacksmith Shop, and about 20 small Houses for Miners, &c.

This Mine is known as one of the most valuable in this country, and sufficiently developed to a depth of upwards of 150 feet, so as to justify extensive operations. The Vein is composed of argillaceous slate, and forms an auriferous bed of from 10 to 12 feet in thickness, carrying very rich string veins of free gold in its center. Thorough and reliable examinations and reports have been made by Prof. Chas. T. Jackson, of Boston; Prof. Genth, of Philadelphia, and the late Prof. Haussor, who all agree and represent this mining property of great intrinsic value. Terms to be made known on the day of sale. For further information as regards reports, &c., &c., apply to
GEO. S. BROWN, 153 Baltimore street, Baltimore, Md.
May23:4t.os.

BLASTING BY ELECTRICITY.
BISHOP'S ELECTRIC FUSE,
WITH GUTTA PERCHA CAPS,
ALSO,
ELECTRIC MACHINES for use with the above, furnished to order, of any size required.
BISHOP'S GUTTA PERCHA CAPS,
FOR
EFFLODING NITRO-GLYCERINE,
with Match Fuse, on hand and furnished to order, with promptness, and
WARRANTED SURE FIRE.
THE BISHOP GUTTA PERCHA COMPANY,
113 LIBERTY STREET.
SAM. C. BISHOP, Agent.
je6:tf

WATERBURY CLOCK COMPANY,
M. BAILEY, Treasurer.
DEALERS IN EVERY VARIETY OF
CLOCKS AND CLOCK MATERIALS,
No. 4 Cortlandt Street,
Manufactory, Waterbury, Conn. may16:2t NEW YORK.

R. HOE & CO.,
MANUFACTURERS OF WARRANTED
EXTRA CAST STEEL SAWS,
OF EVERY DESCRIPTION.
Single and Double Cylinder, and Type Revolving
PRINTING MACHINES.

Circular Saws with Movable or Inserted Teeth.

The accompanying engraving represents a new and improved Circular Saw with inserted teeth, manufactured by us, and constructed on a plan in which is combined a mechanical arrangement embracin; all the requirements of inserted teeth without an objectionable feature.

These saws possess great advantages over all others. The teeth are grooved all around and comprise considerably more than half a circle; consequently when they are turned into the sockets they become as firmly fixed as if they were a part of the plate itself. These saws can be run at any speed desired, and there is no possibility of the teeth being thrown out of their sockets from any cause. There are no rivets required. In these and other respects they have an advantage over all other inserted tooth saws manufactured.

Circulars and price lists will be sent on application.

R. HOE & CO.,
31 Gold Street, New York.

THIS Knife is forged from one bar of Steel, handle and blade; is heavily plated with Silver; and is the cheapest Silver-Plated Knife offered for sale

Sold, wholesale and retail, by
DAVIS COLLAMORE & CO.,
, Importers of China and Glass, 479 Broadway, (four doors below Broome Street,) New York City.

Something that will not Break; a handle that will not crack; is not offensive to the smell, like rubber; is beautiful in design and finish; is the best possible article for Families, Hotels, Restaurants and Steamboats.
Made by J. RUSSELL & CO., Green River Works, Greenfield, Mass.